Natural Gasoline Convention Number

15 Cents a Copy

The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

Published Every Thursday TULSA, OKLAHOMA, MAY 26, 1927 $6.00 a Year

THE JOHN CRERAR LIBRARY MAY 31 1927

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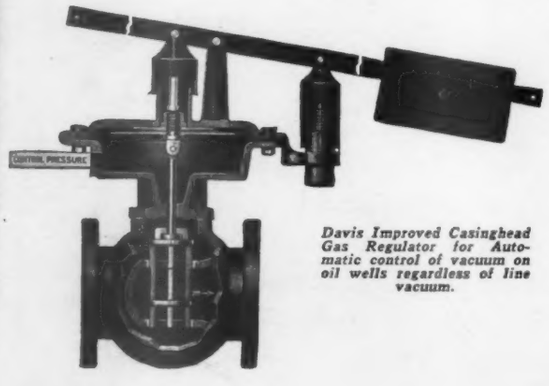
A carload

of Davis Improved Casing Head Gas Regulators

25 Six-Inch Regulators
25 Eight-Inch Regulators
25 Ten-Inch Regulators

going to the largest producer of natural gasoline in the world—the Phillips Petroleum Co. at Panhandle, Texas.



Davis Improved Casinghead Gas Regulator for Automatic control of vacuum on oil wells regardless of line vacuum.

Users of the Davis Improved Casing Head Gas Regulator number practically every refiner of natural gasoline in the country—a convincing testimonial of the perfect service rendered by these automatic vacuum control valves.

G. M. DAVIS REGULATOR CO.
409 Milwaukee Avenue, Chicago, Illinois
WESTCOTT & GREIS, Inc.
Sales Engineers
TULSA LOS ANGELES DALLAS

DAVIS VALVE SPECIALTIES

ESTABLISHED 1875

O&GJ 5-26 Gray

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THE
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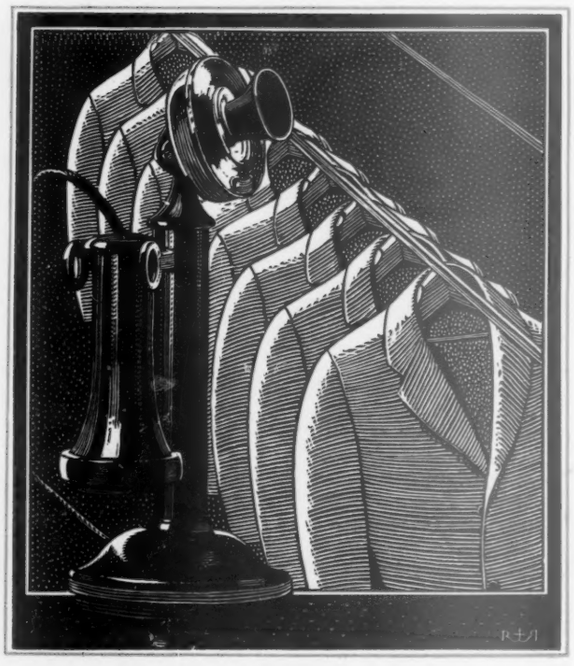
Why not call them up *Long Distance* order more

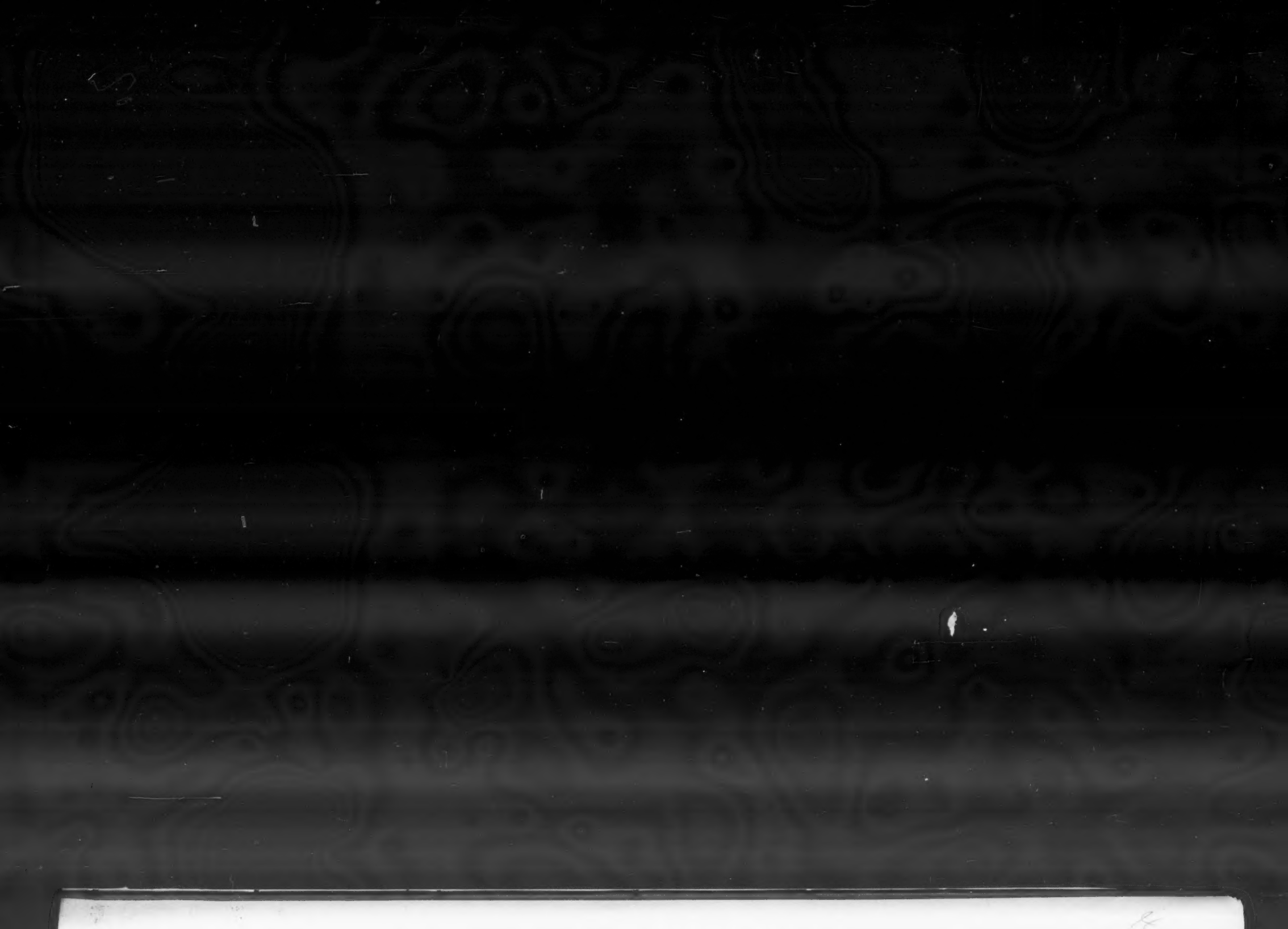


A MADISON, WISCONSIN, clothier found that he was having a run on a special suit of collegiate type. He called the Chicago manufacturer on Thursday morning. Eight suits arrived on Friday. The entire lot was disposed of Saturday. "Had it not been for the telephone," he writes, "we would not have been able to satisfy the demand for a week-end business so profitable to us."

FROM ALL PARTS of the country comes similar news. From Wheeling, West Virginia: "A tremendous demand for slickers caused us to save many sales that would have been lost had we not used the long distance telephone to secure immediate shipments." Louisville, Kentucky: "We use Long Distance for making purchases . . . for hurrying along information and shipments. . . . In many cases it has saved us trips to market." Rochelle, Illinois: " . . . not a week goes by but we use Long Distance to take care of rush orders. . . . The only satisfactory way." Cincinnati: "Long Distance in our case is just as important as the local telephone."

There's scarcely a business in this country that could not use long distance calls to cut costs, save trips and get needed goods. They'll nearly always cost less than you think. . . . *Number, please?*

BELL LONG DISTANCE SERVICE



The final cost of oxwelding

The success of the oxy-acetylene process and the remarkable growth in the extent and variety of its applications are convincing testimony that oxwelding is economically sound.

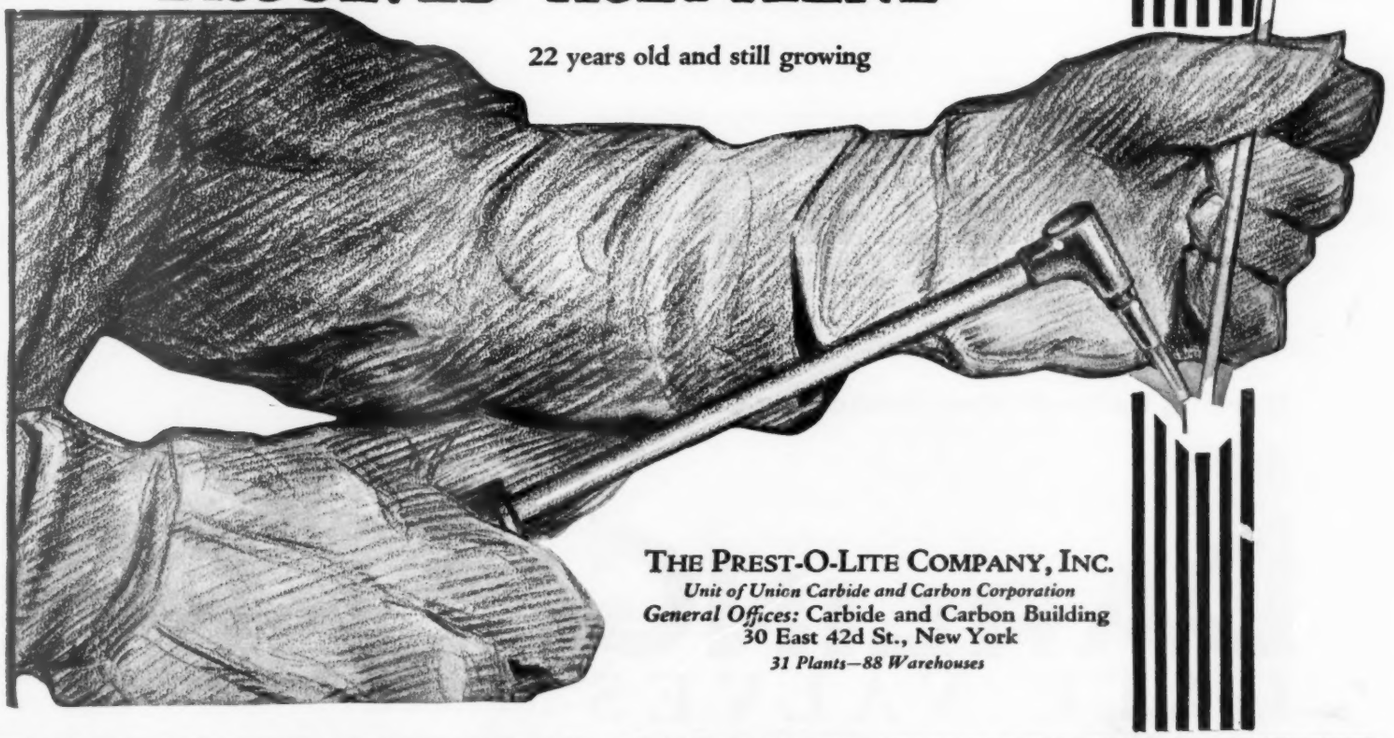
It is not possible that one gas company after another should have adopted oxwelded pipe lines unless there were both economy of installation and economy of upkeep. Plant after plant would not have standardized on oxwelded tanks and welded equipment if it were not sound operating policy. Thousands of engineers and operating executives sponsor the oxy-acetylene process by using it.

The final cost of the gas-welded joint, because of its greater ruggedness, longer life and elimination of maintenance, is always lowest.

Prest-O-Lite

DISSOLVED ACETYLENE

22 years old and still growing



THE PREST-O-LITE COMPANY, INC.
Unit of Union Carbide and Carbon Corporation
General Offices: Carbide and Carbon Building
30 East 42d St., New York
31 Plants—88 Warehouses

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the postoffice at Tulsa, Okla., under the Act of March 3, 1879.

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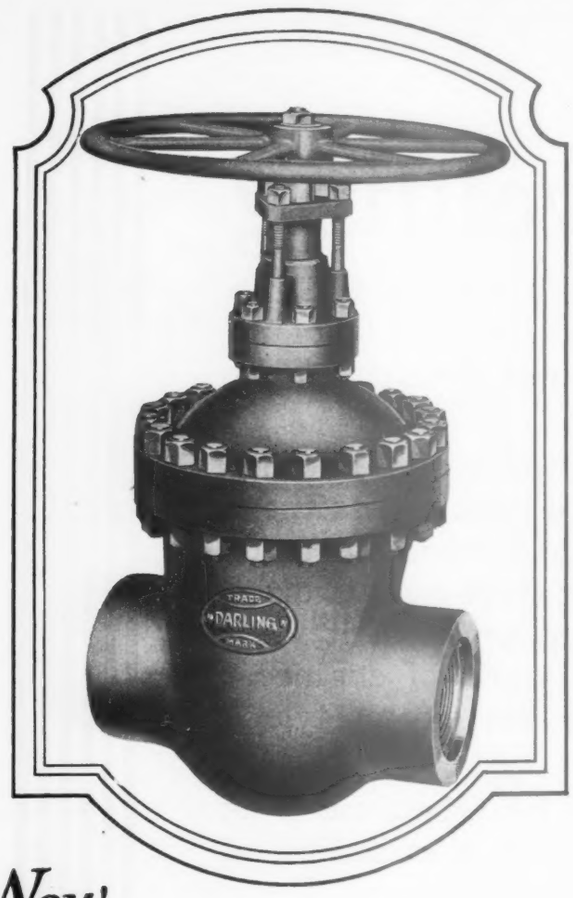
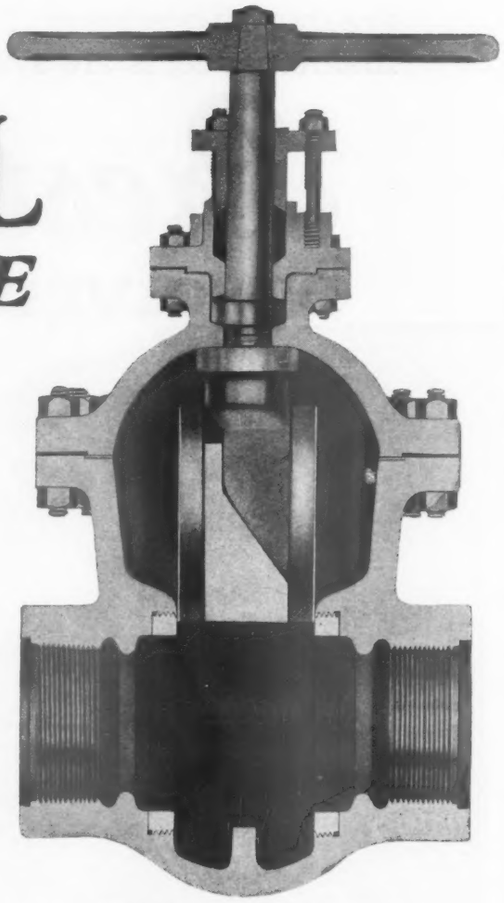


A Big Advance in Valve-Making

The New

FORGED STEEL

DRILLING GATE VALVE



Note how the seat faces are recessed. No danger of damage from tools being passed through.

Here is the latest achievement in valve-making for the oil industry —an achievement that really *means something* to operators who know the hazards of high pressure and the difficulties of control.

This final word in Darling Drilling Valves is made from tough, elastic steel, *hammered to shape* and machined to perfection. The piping, sand holes and porous spots, present in all castings, are non-existent in metal forged to shape.

Furthermore, enormous tensile strength and a high factor of safety have been secured with no appreciable increase in weight. The working parts are of the same successful design that characterize all Darling Gate Valves, i. e.—simple, dependable and fool-proof. Easy to open yet always tight.

Detailed Information on Request.

Darling Valve & Manufacturing Company

Williamsport, Pa.

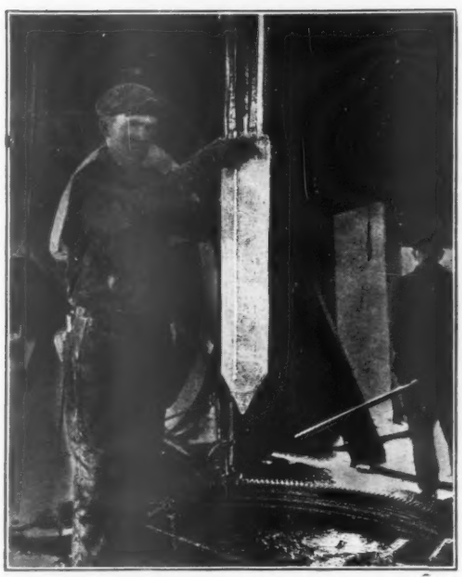
New York Chicago Oklahoma City Houston

Mid-Continent Distributors:
Frick-Reid Supply Co. Atlas Supply Co.
International Supply Co. Petroleum Supply Co.

California Distributor:
Petroleum Equipment Company, Los Angeles

DARLING GATE VALVES

Stuffing Cartridge Container with Eagle Lead Wool—as easily as you would handle ordinary rope



The Cartridge Container stuffed with Eagle Lead Wool, ready to be lowered at the end of tools to the battle ground of water

Eagle Rope Socket Metal

for socketing wire rope is 35% lighter than ordinary No. 4 babbitt. Will not crumble or break in the rope socket. An Eagle-Picher product, together with Lead Wool and Eagle Bearing Metals. Write for free Lead Wool booklet.

Stop the waste of bottom water—

plug it off with Eagle Lead Wool

OIL men, alert to the need for conservation of natural petroleum deposits, are taking a rapidly growing interest in eliminating production wastes.

Bottom water, one waste that costs producers many thousands of barrels, can be shut off quickly and economically by the use of Eagle Lead Wool. The process is simple and thorough:

FIRST, stuff the special Cartridge Container with Eagle Lead Wool, which is as easy and quick to handle as ordinary rope. Use only as much lead wool as is needed. There is no waste.

SECOND, drop the container into the well. Under pressure, the spongy lead wool is pounded out through the meshes of the container, filling every crack and water crevice, stopping the flow at once. Lead Wool makes a permanent plug—it cannot corrode.

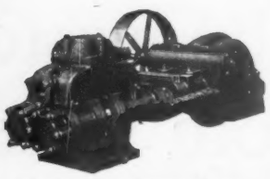
Your supply company stocks Eagle Lead Wool and Cartridge Containers—in sizes for all casings. Or write direct to Eagle-Picher at Joplin. Free descriptive booklets on request.

The EAGLE-PICHER LEAD COMPANY
Chicago · Joplin · Cincinnati

EAGLE LEAD WOOL

and Cartridge Containers

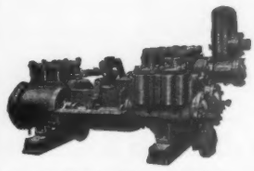
Producers of lead, zinc and allied products · Eleven Plants · Branches in all principal cities



Flood-Lubricated, Power Driven Pumps for Portable Rigs—3½x5, 4x6, 3x10, 4x10 and 4½x10. Patents Pending.

Flood-Lubricated, Power Driven Booster—4x12, 4½x12, 5x12 and 5¾x12. Patents pending.

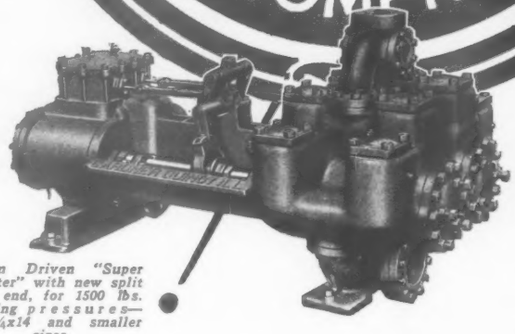
Enclosed Self-Lubricated, Power Driven "Super Booster"—7¼x14 and smaller.



Steam-Driven Booster with improved Lubrication features—14x4½x12, 14x5x12, 14x5¾x12 and 14x6¾x12.

The most *complete* line of mud pumps in the world

GARDNER
GOVERNORS
PUMPS · COMPRESSORS



Steam Driven "Super Booster" with new split fluid end, for 1500 lbs. working pressures—14x7¼x14 and smaller sizes.

Send for bulletins

"Quality Builders for Over 65 Years"

THE GARDNER GOVERNOR COMPANY
Quincy, Ill.

CHICAGO	NEW YORK	PHILADELPHIA	MUSKOGEE
549 Washington Blvd.	534 Singer Bldg.	604 Arch St.	323 Dayton St.
HOUSTON	SAN FRANCISCO	LOS ANGELES	LONDON
611 2nd Nat'l Bank Bldg.	401 Rialto Bldg.	684 Santa Fe Ave.	25 Bishopsgate E. C. 2

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Atlas Supply Company, Muskogee, Tulsa and Fort Worth
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Emsco Derrick & Equipment Co., 6811 So. Alameda St., Los Angeles, Calif.
Haywood-Williamson, Shreveport and El Dorado
F. W. Heitmann Company, Houston
International Supply Co., Stores in all principal Mid-Continent fields.
Norvell-Wilder Hdwe. Company, Beaumont, Houston and Fort Worth.
The Republic Supply Company of California, Stores in all principal California Oil Fields.

GARDNER

Bit! Do Your Stuff

THEY let 'er go with these words, with no doubt as to its ability, because the bit is made of Agathon Alloy Steel. Such bits cut their way through rock, shale or anything in their path. It's economy to drill with bits made of these super-steels. They last longer, need less attention, and never fall down on the job. This means fewer delays and more feet drilled per dollar.

Insist that bits you use are made of Agathon Alloy Steels. You'll be surprised at the savings you make. Write for more information.

Mid-Continent Office:
406 W. First Street
Tulsa, Oklahoma

Central Alloy Steel Corporation, Massillon, Ohio

World's Largest and Most Highly Specialized Alloy Steel Producers

Makers of Toncan Copper Mo-lyb-den-um Iron

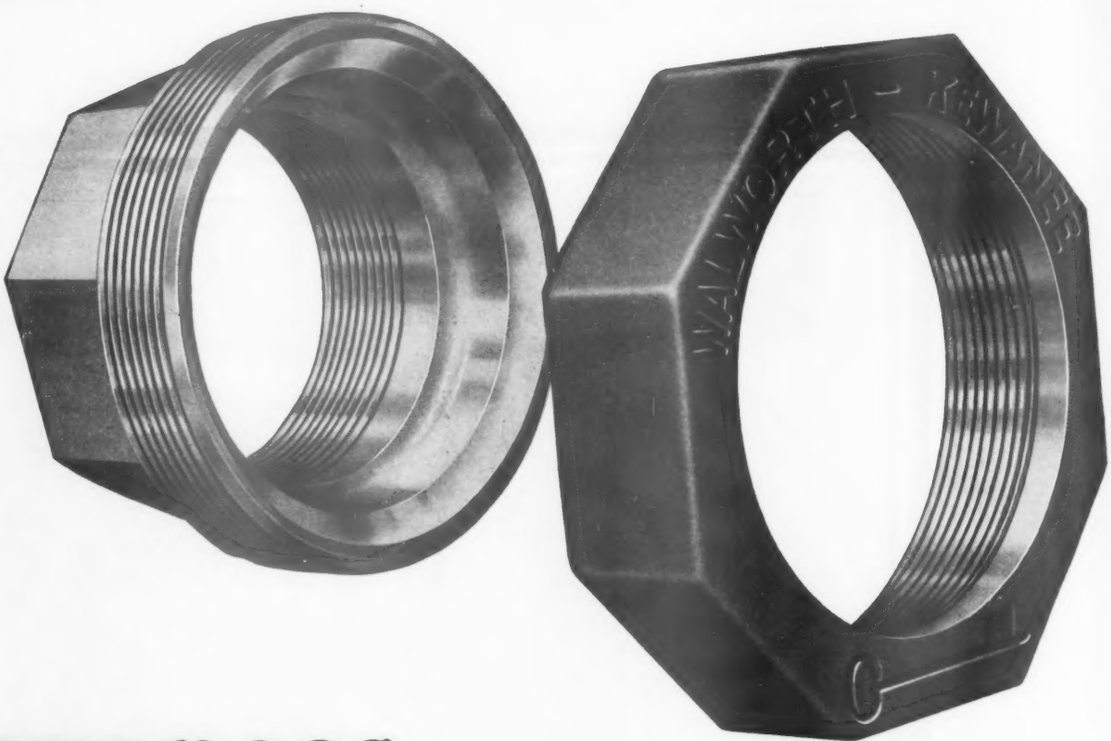
Cleveland Syracuse San Francisco Detroit Philadelphia Chicago Los Angeles New York Tulsa St. Louis Seattle Cincinnati

AGATHON STEELS

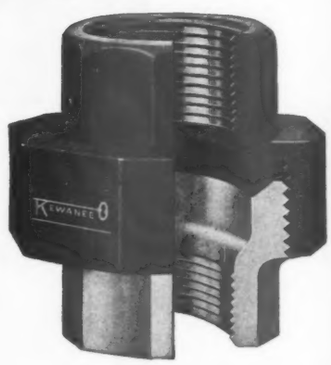
AGATHON ALLOY STEELS

Better because:

1. Forged bronze-to-iron thread connection—no corrosion.
2. Forged bronze-to-forged steel ball-joint seat—no gasket.
3. Solid three-piece construction — no inserted parts.
4. Tested by compressed air under water—no defective unions.
5. Easily disconnected with a wrench—no force required.



Kewanees
by
WALWORTH



WE COULD show you a close-up of any Walworth Valve or Fitting, and give you new respect for the whole line. The Walworth folks are that way—if they can't build better than it has been built, they let some one else build it.

This Kewanee Union gives you a jolt. Only three parts, but they work better than more parts possibly could.

There's the ring, of malleable iron that doesn't wear out with the first few thousand disconnections.

There's the thread end of forged manganese bronze. It also lasts.

And there's the other end, of forged steel.

Guided by the ring, the two ends meet in a ball-joint seat, forged bronze against forged steel. No leaks, no corrosion under any conditions, and easy to break out at any subsequent date.

The Frick-Reid Store in your field has them, together with other Walworth products.

FRICK-REID
SUPPLY CO.

Tulsa, Okla., Pittsburgh, Pa.
West of the Mississippi, Stores Everywhere

Also

Axelson Machine Co.
Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps) etc.

Beaumont Iron Works Company
Dreadnaught Rotary Equipment, Water-Cooled Draw Works, Pumping Hoists, Traveling Blocks, etc.

Carbic Manufacturing Company
Acetylene Gas Generators and Welding Equipment

Donovan Boiler Works
Oil Country Boilers and Tanks.

Frick-Reid Service Belting
Rubber Covered and Friction Surface.

Jensen Bros. Mfg. Co.
Pumping Jacks.

National Transit Pump and Machine Co.
Power and Steam Pumps.

J. P. Ratigan
Grips, Clamps, Beam Hangers.

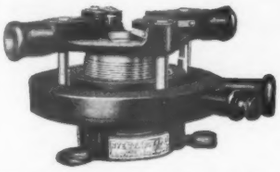
Joseph Reid Gas Engine Company
Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers.

Whitlock Cordage Co.
Manila Cordage, Bull Ropes and Cat Lines.

Lapweld and Seamless Tubular Goods

Walworth Company
Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.

Rossendale Reddaway Belting & Hose Co.
"Camel Hair" Belting, Belt Clamps.



The No. 1A is the same as the No. 1 except that it is equipped with a ratchet for work where space is restricted.

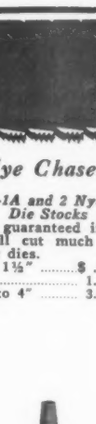
No. 1A Nye Receding Pipe Threader, complete .....$12.00 net
West of Rocky Mountains.....$13.50

Nye Chasers

Fit Nos. 1-1A and 2 Nye Receding Die Stocks

Each set is guaranteed in every particular. Will cut much easier than other similar dies.

No. 1, 1" to 1½" .....$ .75 per set net
No. 1, 2" ..... 1.25 per set net
No. 2, 2½" to 4" ..... 3.60 per set net



Nye Bit Brace Reamer

Reams from ⅜ to 1¼ inches inclusive.
NET PRICE $1.17
ABSOLUTELY GUARANTEED

Nye Saunders Pipe Cutters

No. 1 ..... $ 1.80 net
No. 2 ..... 2.70 "
No. 3 ..... 6.60 "
No. 4 ..... 10.80 "
No. 5 ..... 16.80 "

A LETTER FROM HARRY G. NYE

TO THE OIL MEN OF THE U. S. A.

Fellow Citizens:

Well, the baseball season is in full swing again, and, as usual, it looks like one of the greatest years in the history of the game, if the fans give the players an even break, which they won't. Old Nero throwing Christians to the lions, or the Kiwanians or whoever it was, was a nice old gentleman distributing bags of candy in Sunday school, compared to some of these leather-lunged and paper-brained knockers who inhabit the baseball park.

Of course, some folks will say that it's just home pride that makes them act that way, although to me it looks more like it was home brew. Well, if knocking some brother engaged in his daily employment is home pride, heaven deliver me from ever having any, although I have a lot. Whenever I see some kid pitcher from Arkansas who is on one of the Chicago teams strike out some slugger from Texas who is on one of the New York teams, my bosom swells with home pride as much as anybody's.

But, no matter where they come from, you seldom have a good team except in a good town. Some of these outdoor orators think that they knock the team because it is in last place; more likely it is in last place because they knock. If you don't think so, you might try yelling "Take him out!" and "You're rotten!" around the shop every day, and see how the men will love their work. And, of course, you would like to have some milkman telling you how to run the plumbing business.

I don't know how it is with your team in your town, but our team has one manager and 24,796 assistant managers. There are at least that many fellows in our town who could run the team better than the manager can run it, if they weren't already running a truck or clerking in a drygoods store. They know just where he made his mistake. So does he. It was in trying to build up a team that would please a wrecking crew.

Let's give the manager an even break, and the players a little more. I don't mean the fellow who bats around .133 because he bats around the night before. I don't mean the pitcher who eats pretzels all night and then expects to throw pretzels the next day. I mean the fellow who is doing his best to do his best. We don't all field 1,000 in our business, so let's not expect a third baseman to do it. We haven't any right to kick unless he is worse at his job than we are at ours, which isn't likely.

Why, as far as this concern is concerned, we don't even knock our competitors. They're doing the best they can with what they have.

Yours truly,
HARRY G. NYE

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HARRY G. NYE
All Rights Reserved

Otherwise Known as
THE NYE TOOL & MACHINE WORKS
4120-30 Fullerton Ave., Chicago, Ill.

P.S. Who do I think will win the pennant this year? Nye tools, of course. They cut pipe without an error and make a hit with every man who uses them. Use Nye tools and lead the oil league in your town.

New Type Self-Locking Vises

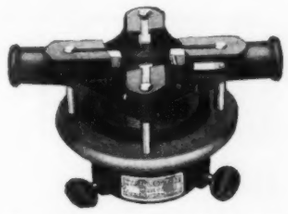
No. 00 ..... $2.82 net
No. 10 ..... 3.34 net
No. 20 ..... 5.00 net
No. 30 ..... 7.33 net

Nye No. 51--Chain Vise

Capacity ⅛ to 2½ inches

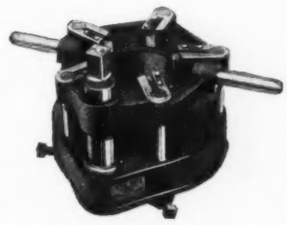
A handy, compact little vise, possessing maximum strength, while of minimum weight. Easily carried in tool kit. Equipped with standard jaws. Having features not found in similar vises, the double lever tightening device being above the bench, rather than below, insuring faster and smoother operation.

NET PRICE $4.67
ABSOLUTELY GUARANTEED



The rugged construction and few working parts account for the simplicity and durability of these Nye Receding models. They do the work easily and efficiently.

No. 1 Nye Receding Pipe Threader, complete .....$9.60 net
West of Rocky Mountains $10.80



Nye No. 2 Geared Threading Device

Improved

Capacity 2½ in. to 4 in. inclusive. This tool has the same rugged construction as the No. 1 and No. 1A Nye Receding Stocks. A ratchet handle and a spider hub threaded for 1-inch pipe is furnished as standard equipment.

Net price complete $50.00
West of Rocky Mountains 55.00
FREE TRIAL—ABSOLUTELY GUARANTEED

Nye thin blade cutter wheel, made to fit all standard makes of pipe cutters, and guaranteed against breakage in use. Made both in smooth and knurled edge.

Nye Barnes Pipe Cutters

No. 1 ..... $ 2.25 net
No. 2 ..... 3.00 "
No. 3 ..... 5.00 "
No. 4 ..... 10.00 "
No. 5 ..... 15.00 "
No. 6 ..... 20.00 "

F.O.P.

An Asbestos-fibre Oil-proof SHEET PACKING *developed exclusively for oil industry service*

NO manufacturer of packings has made as thorough an investigation of the packing requirements of the modern refinery and gasoline plant as has the United States Rubber Company. There is not a condition, from the handling of crude in the pipe line to the various pumps carrying gasoline, kerosene and hot oils down to hot tar, that is not being packed successfully and economically with "U. S." Packing.

We are particularly proud of the remarkable service given by our F. O. P. ASBESTOS-FIBRE OIL-PROOF SHEET PACKING.

Recommended for flanges on hot oil, cold oil, benzine, naphtha, gasoline, mineral sea oil and high or low pressure, saturated or super-heated steam.

F. O. P. has no equal for high pressure Still Head Gaskets. It will not soften in hot oil at any temperature.

Performance records prove it to be the perfect packing for all types of gaskets on gas or oil engines, compressors, or extreme dry heat conditions.

HIGH HEAT — GASOLINE
OIL FIELD
F. O. P.
HIGH PRESSURE
SHEET
HOT OILS — STEAM

Specify F. O. P. Sheet Packing!

United States Rubber Company

1790 Broadway (U S Trade Mark) New York City

Sales Branches:

Tulsa, Okla. — Chicago, Ill. — Kansas City, Mo. — Dallas, Texas
Houston, Texas — Pittsburgh, Pa. — St. Louis, Mo. — Memphis, Tenn.
Columbus, Ohio — New Orleans, La. — Los Angeles, Cal. — New York City

100 YEARS OF STEEL IMPROVEMENT

Number Three in a Series of Advertisements

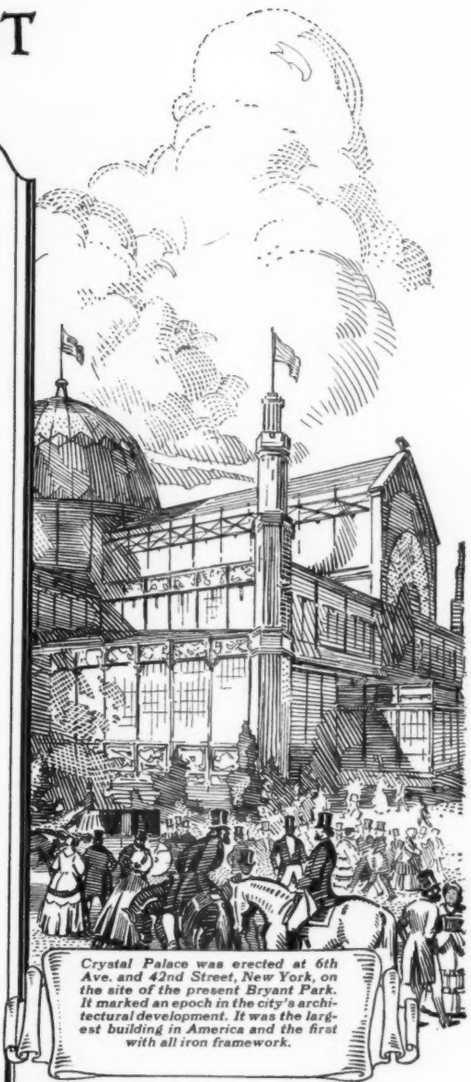
CRYSTAL PALACE

NEW YORK, WAS THE SCENE OF THE FIRST AMERICAN WORLD'S FAIR AND THE FIRST AMERICAN SHOWING OF NICKEL ALLOY STEEL

In July 1853, Crystal Palace was formally opened by President Franklin Pierce, who came from Washington for the event. Among the many artistic and scientific exhibits that aroused the interest of the curious throngs were samples of Philip Thurber's Nickel Alloy Steels.

The American public thus received its first glimpse of those Alloys that had been the subject of many far-reaching European experiments—its first glimpse of Nickel Alloy Steels which are now accepted as standard materials of industry.

The many years of Nickel Steel development have contributed to an extensive fund of information concerning the superior properties and many uses of these Alloys. You are invited to consult our staff of engineers and thus draw upon these helpful data.



Crystal Palace was erected at 6th Ave. and 42nd Street, New York, on the site of the present Bryant Park. It marked an epoch in the city's architectural development. It was the largest building in America and the first with all iron framework.

SOME STANDARD APPLICATIONS OF NICKEL ALLOY STEELS

- Armor Plate
- Axles
- Boiler & Fire Box Plate
- Boiler Tubes
- Bolts, Nuts, Rivets, etc.
- Castings
- Crank Shafts
- Dies & Die Blocks
- Forgings
- Gears & Pinions
- Mechanical Tubing
- Ordnance
- Railway Track Work
- Roller Bearings
- Shafts
- Shovels
- Special Tools
- Steel Mill Rolls
- Structural Shapes
- Turbine Blading
- Valve Bodies
- Welding Rod

FOR STRENGTH WHERE THE STRESS COMES

ALLOY STEEL

Send for Buyer's Guide for Nickel Alloy Steel Products

Nickel

FOR ALLOY STEEL

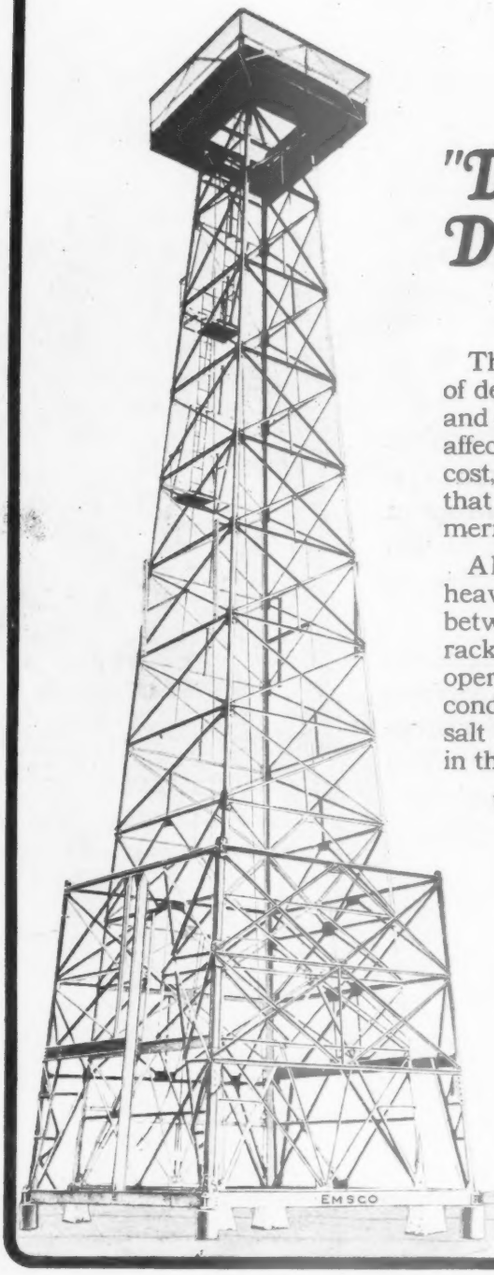
INCO NICKEL

THE INTERNATIONAL NICKEL COMPANY (INC.) 67 WALL STREET, NEW YORK CITY

Producers of INCO Nickel in all commercial forms

INCO NICKEL

EMSCO
A Complete Line of Better Oil Well Equipment



The
Emsco
"Dual" Combination
Drilling & Pumping
Derrick

The Emsco "Dual" combines two heights of derricks in one rig—a drilling derrick and a pumping derrick. This combination affects such tremendous economies in first cost, erection, operation and in salvaging that no other derrick can approach it in merit where two such rigs are required.

All steel of large cross section, and heavily reinforced with sturdy cross braces between each girt, it will defy the hardest racking strains of drilling and pumping operations. Heavily galvanized, climatic conditions won't "faze" it whether near salt water, in the foggy "back country," or in the tropics.

Write for the Emsco Book of All Steel Derricks

EMSCO
Derrick & Equipment Company
of Texas
Houston, Texas
Los Angeles California
New York Office 150 Broadway

Emsco Steel Equipped Wells Are Safe

day,

The EMPIRE DEMAND METER

The illustrations show:

1—Style B Angle Connection on 10 Lt. Tin Meter.
2—Style weighted C Vertical Connection on 5 Lt. B Iron Case Meter.
3—Style B Vertical Connection on 5 Lt. B Iron Case Meter.
4—Style weighted C Angle Connection on 10 Lt. Tin Meter.

Does this—

—*automatically* limits maximum rate of flow of gas from distributing system to the customer.

—*delivers gas at* uniform pressure for all rates up to maximum demand customer has contracted for.

—*by uniform delivery* of pressure, guarantees highest efficiency at customer's appliances.

—*provides for ready* adjustment to decrease or increase delivery according to wish of customer or to a limited supply of gas.

—*operates with* reliability characteristic of ordinary house governor, being a simple device, easily maintained.

—*assures a constant,* KNOWN demand which cannot be influenced by severe winter weather or sudden extra demands by customers.

—*by enabling exact* knowledge of maximum demand allows customer to be assured of uniform dependable service, at all times.

—*makes practicable* the introduction of the three-part rate.

Write for complete information which is ready for you in an attractive booklet.

WESTCOTT & GREIS, Inc.
SALES—SERVICE
Dallas Tulsa Los Angeles

METRIC METAL WORKS
of the American Meter Company, Inc.
ERIE · PENNSYLVANIA · U-S-A

"It Took a Real Knowledge of Oil Field Conditions to Produce That Coupling"

And the Old Timer who makes this statement knows what he's talking about. In times past he's had plenty of the "tough luck" that an unreliable coupling brings in the form of lost tools, delayed production and costly fishing jobs. And he knows that the qualities of strength, service and dependability that raise Harrisburg Couplings head and shoulders above the ordinary kind didn't "just happen."

Next time you order couplings from your supply house, specify Harrisburg Couplings Forged Seamless from Special Oil Field Steel. The couplings of perfect thread, perfect taper, absolute uniformity—and double strength. The couplings for quick production and sure economy.

HARRISBURG PIPE & PIPE BENDING COMPANY
Harrisburg, Pa.

Fully Equipped with Our Open Hearth Furnaces, Rolling Mills and Forge Shops

DISTRIBUTORS:

Harrisburg Pipe & Pipe Bending Co. of Texas, Inc. Houston, Texas

Harrisburg Supply Co., Tulsa Okla.

George J. Hausen, Inc., San Francisco, Los Angeles and Taft, Cal.

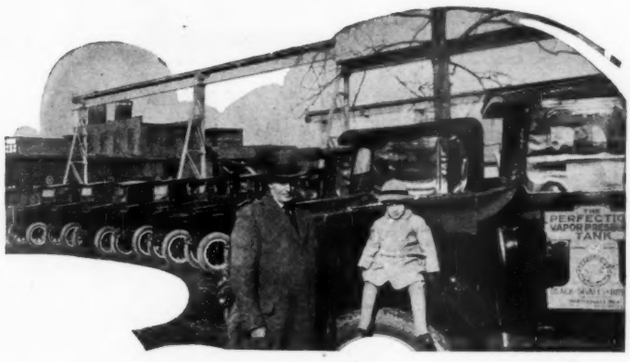
HARRISBURG

Forged Seamless Steel Couplings

42 *Internationals*

in the fleet of *Black, Sivalls & Bryson*

oil tank builders *of* Kansas City



Showing Mr. A. H. Black, President of Black, Sivalls & Bryson Mfg. Co., Kansas City, Mo., with his grandson, John McCormick Reynolds, Jr., and part of the fleet of 42 Internationals. Ten minutes after the picture was taken the trucks were on their way loaded with knocked-down bolted tanks, to Kansas, Oklahoma, and Texas.

WHEN oil is "brought in," tanks must be on the ground to hold it. The great Southwest oil country comes to Black, Sivalls & Bryson for the tanks and Black, Sivalls & Bryson comes to International Harvester for the motor trucks that deliver the goods.

Forty-two Internationals now make up this fine fleet of trucks. Thirty-six are 2-ton Heavy-Duties, five are 3-ton Heavy-Duties and one is a light ¾-ton "Special Delivery." Their job is to haul the huge tonnage of tank material from the many field stations out to the new wells. The average trip is 75 miles and heavy loads frequently go 300 miles over bad roads and no roads. At times delivery continues night and day for weeks; drivers are changed, but the Internationals go on.

When more trucks are needed, Black, Sivalls & Bryson buy more Internationals. One re-order was for 18 trucks and now comes an order for another sub-fleet of 9. Experience has taught them that International Truck investment means sure performance and unequaled service. That is the record of Internationals everywhere in oil production and distribution. They will serve *you* as well. Catalogs will be sent on request.

See the trucks at the nearest branch or dealer

The *McCormick-Deering Industrial Tractor* is the best bet for many hauling jobs. It is sturdy, compact, powerful, flexible, and economical. Power delivery three ways —drawbar, belt, and power take-off.

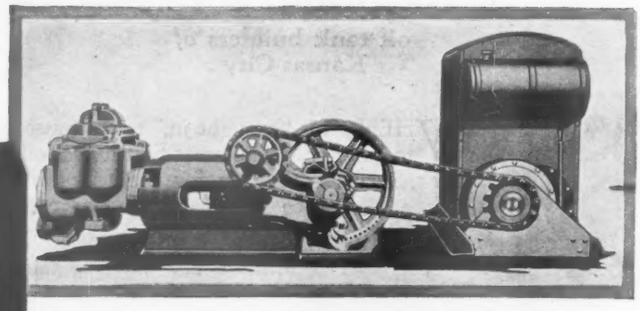
International Trucks include the ¾-ton "Special Delivery"; Speed Trucks, 4 and 6-cylinder, for 1¼ and 1½-ton loads; and Heavy-Duty Trucks, double-reduction and chain drive, 2½ to 5-ton. *Service through 126 Company-owned Branches in the United States.*

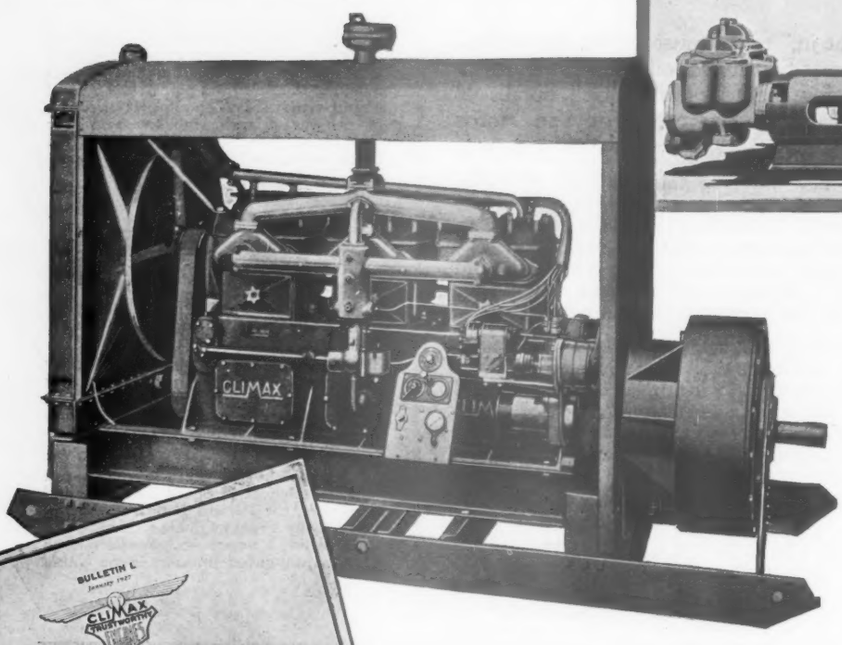
INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. OF AMERICA (Incorporated) Chicago, Illinois

CLIMAX

Trade Mark Reg. U. S. Pat. Office

POWER UNIT
WITH REDUCTION GEARS





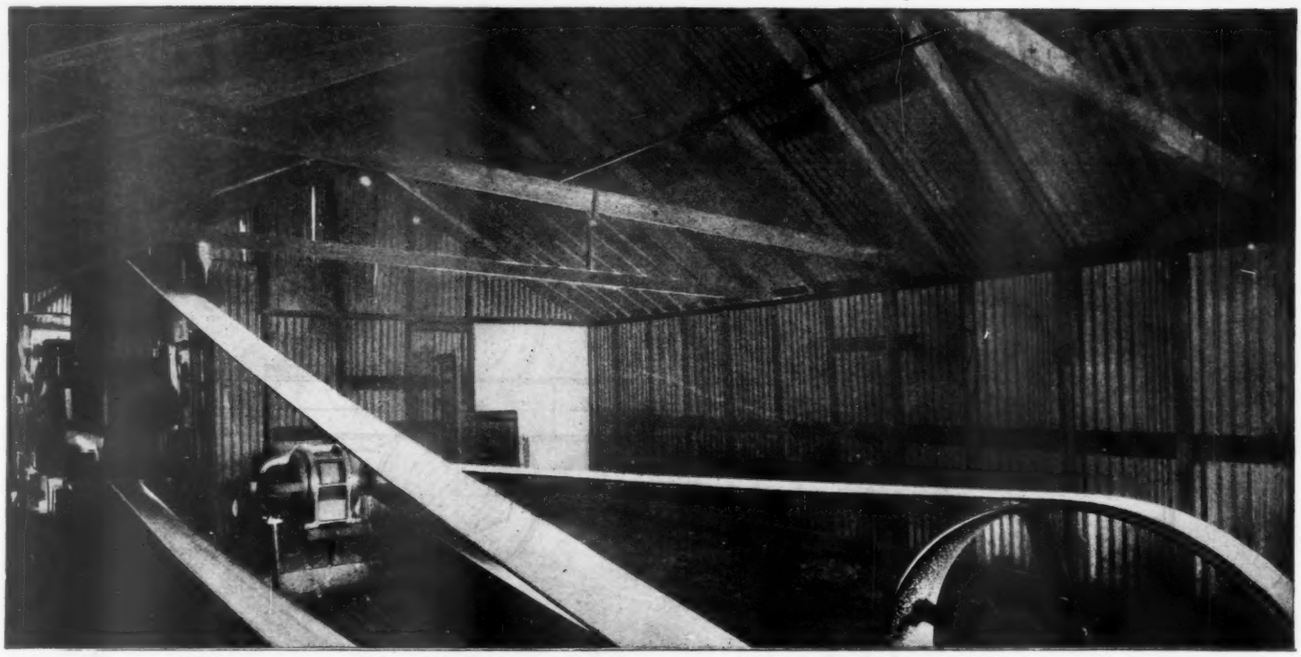
Write for
BULLETIN L

CLIMAX ENGINEERING CO.
CLINTON, IOWA

DISTRIBUTED BY

THE NATIONAL SUPPLY COMPANIES

Exclusive Foreign Oil Field Distributors:
THE NATIONAL SUPPLY CORPORATION
120 Broadway, New York, N. Y.
165 Queen Victoria St., London, E. C. 4, England



IT PAYS TO BUY THE BEST

The special service demanded from mechanical rubber goods both in the oil field and in refinery duty is met by the special construction of Goodyear Belts, Hose, Valves and Packing.

In pumping and drilling, for example, ordinary belting quickly succumbs under the repeated and heavy variations in load. The ply construction of Goodyear Belts is designed to stand up under this punishment, insuring long economical wear.

Other severe duty is also imposed on the belt in the field, as every oil man knows. The pulling of casing, tubes and rods, the bailing out of wells, and similar routine or emergency work further calls for a strong, flexible belt, built as Goodyear Belts are built, with a special understanding of oil field needs.

Goodyear Belts and other mechanical rubber goods for the oil industry are all specified to their duty by the G.T.M.—Goodyear Technical Man. The G.T.M. is an expert on belting. He knows the demands of the oil industry. You may rely on any Goodyear Mechanical Rubber Goods that he may recommend to give you more efficient, uninterrupted and trouble-free service.

For detailed information about the work of the G. T. M., the Goodyear Analysis Method and Goodyear products for your industry, write to Goodyear, Akron, Ohio, or Los Angeles, Calif.

TRANSMISSION BELTS — *Thor, Goodyear, Klingtite* • HOSE—*Air, Water, Steam, Gasoline, Fire, Mill* • OIL SUCTION or DISCHARGE HOSE • ROTARY HOSE • PACKING—*Asbestos and Rubber Sheet for both field and refinery service* • PUMP VALVES • SLUSH PUMP SLEEVES • SWAB RUBBERS

Goodyear Means Good Wear

GOODYEAR

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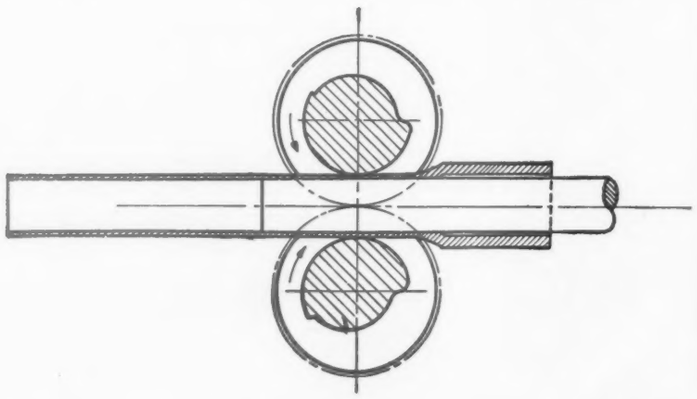
PITTSBURGH SEAMLESS



Pilging = Forging

THE marvelous new Pilger process actually forges the heavy walled unfinished seamless tube into a finished tube of the desired wall thickness. This forging action produces that fine, dense texture in the steel that means maximum tensile strength and resistance to collapse.

Pittsburgh Seamless Steel Casing

is made from the finest quality basic open hearth steel. It is made complete in our own furnaces and mills from the ore to the finished product, and we maintain the highest standards of quality and uniformity throughout. We make casing by the Pilger process up to 12 inches in diameter, and in lengths limited only by transportation and drilling facilities.

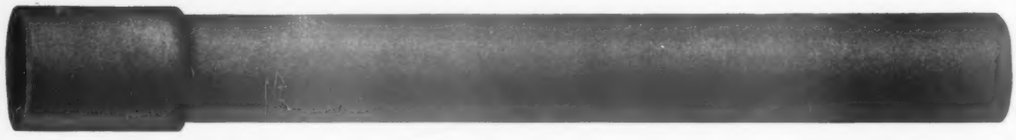
Pipe Storage Yard at Memphis

Our large storage stocks at Memphis enable us to give *Pittsburgh Seamless* service in the Mid-Continent and Gulf Coast fields at an average saving of from eight to ten days. Your inquiries will be given prompt attention.

Pittsburgh Steel Products Co.

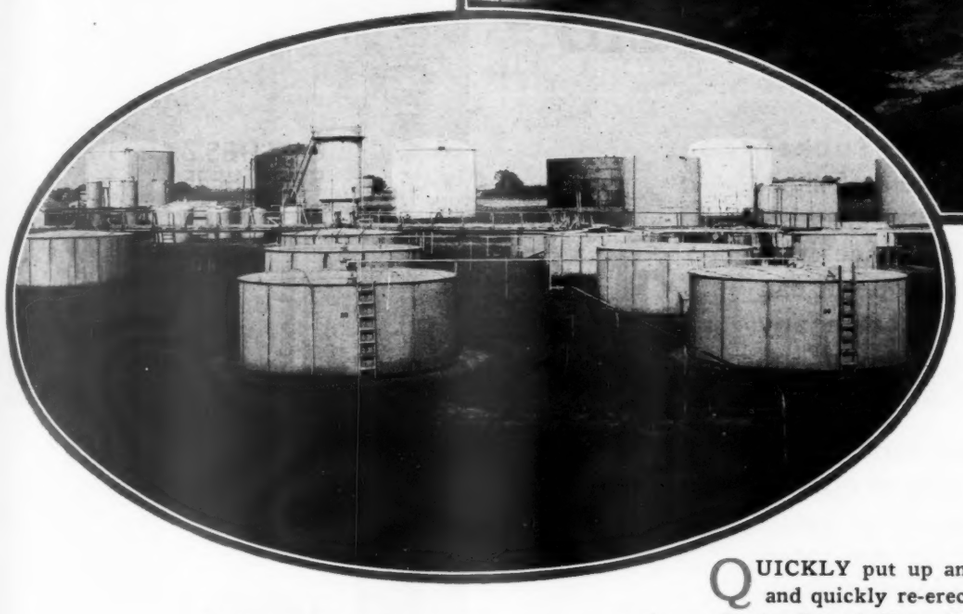
PITTSBURGH NEW YORK CHICAGO DETROIT

Second National Bank Bldg., Houston, Tex. Atlas Life Bldg., Tulsa, Okla.



Batteries and more batteries of Butler Bolted Tanks

at Blackwell Oklahoma



All these tanks are the property of the Cushing Refining Company at Blackwell, Oklahoma

Butler reliable dealers are:

M & V Tank Company, at Wichita Falls, Olney, Nocona, Cross Plains, Amarillo, Albany, Cisco, Isom, Pampa and Brownwood, Texas.

Drane-Humphrey Co., at San Angelo, Big Lake and McCamey, Texas, and Carlsbad, New Mexico.

Drane Tank Company at Tulsa, Holdenville, Seminole, Hallett and Shawnee, Oklahoma; Eldorado and Madison, Kansas.

M. A. Trimmer, at Blackwell, Oklahoma.

Southern Steel Company, at San Antonio and Mirando City, Texas.

Butler and Gamble, 300 Great Republic Life Building, Los Angeles, California.

Petroleum Specialties Co., at Casper, Wyoming.

Thomas Moran, at Oil City, Shreveport and Georgetown, Louisiana.

Continental Supply Co., at Kevin, Montana.

QUICKLY put up and quickly taken down, quickly handled and quickly re-erected—there is every proof of dependable service on Butler Bolted, Vapor-Tight Tanks.

For example, consider the holes in Butler sheets. Giant machines make them. This includes the sheets for the body and the sheets for the top and the sheets for the bottom. The holes are accurate in size and location.

The holes are right where they should be and quick erection is effected in the field.

Butler sheets are larger. There is a natural reduction of the number of sheets necessary for a tank which in turn reduces the number of seams. *Fewer seams* mean *fewer leaks.* Fewer sheets mean fewer number for the erection gang to handle. Speed is gained as well as gravity maintained.

The dealers who handle Butler Tanks have had years of experience in putting them up and are dependable. They know how to erect Butler Tanks with speed and accuracy.

Tell them your needs or tell us. Complete information furnished on request.

Any kind of welded tank made to your specifications.

Butler Products include: *Ready-Made* Steel Buildings, Cans, Funnels, Buckets, Measuring Pumps, Truck Tanks, Underground Tanks, Storage Tanks, Bolted Tanks, Etc.

Butler Manufacturing Co.

Kansas City, Mo. Minneapolis, Minn.

Foreign Department: Kansas City, Mo.

CATCHES

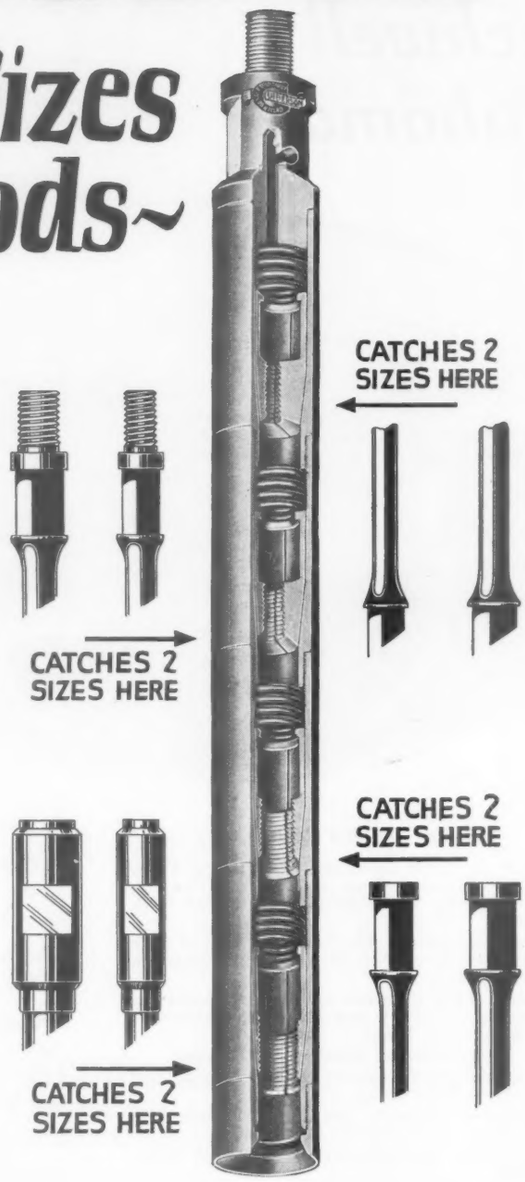
8 Different Sizes of Broken Rods~

The Guiberson Multiple Sucker Rod Socket has four sets of slips, each capable of catching two different sizes of rods. Since it is really eight sockets in one, it can be depended on to catch any broken rod *on the first run,* no matter where rod is broken.

Simplicity of design renders the Guiberson Socket easy to operate and easy to disengage from catch. All slips and shells are interchangeable, and are inexpensively and quickly replaced. *Fully patented.*

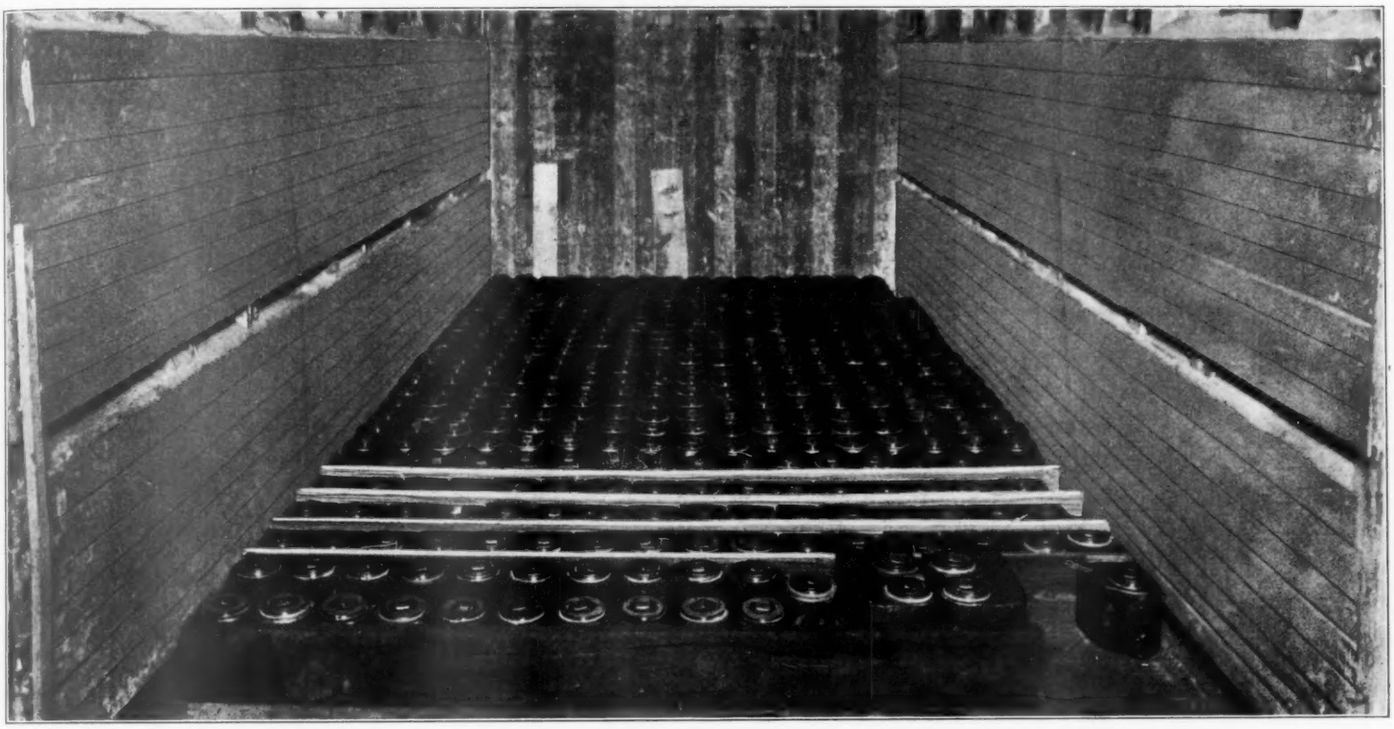
"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION
Box 1106, Dallas, Texas
CALIFORNIA BRANCH: 1506 Santa Fe Ave., Los Angeles
402 W. First St., TULSA
321 S. Osage St., PONCA CITY
506 Trust Bldg., NEWARK, O.



GUIBERSON
BETTER BE SAFE THAN SORRY

HI-STEEL RETURN BENDS



Dependable Pressure Castings

The Mark of Safety for the Vital Spot of your Pressure Units

Back of every Hi-Steel return bend or pressure casting is an organization trained in the production of castings for high pressure and temperature service—an organization which has been so successful in this work that never during its years of pressure casting production has there been a service failure reported.

In the one plant under one direction and supervision, the patterns are made, castings produced, plugs made, machine work done, and the finished return bend tested with plugs in place.

Thus, from the beginning of the job through to the completely finished and tested return bend or fitting you can leave the responsibility to "OHIO" with the assurance that your requirements will be met.

That they do their work well is shown by the many repeat orders from satisfied customers.

WRITE FOR HI-STEEL BULLETIN

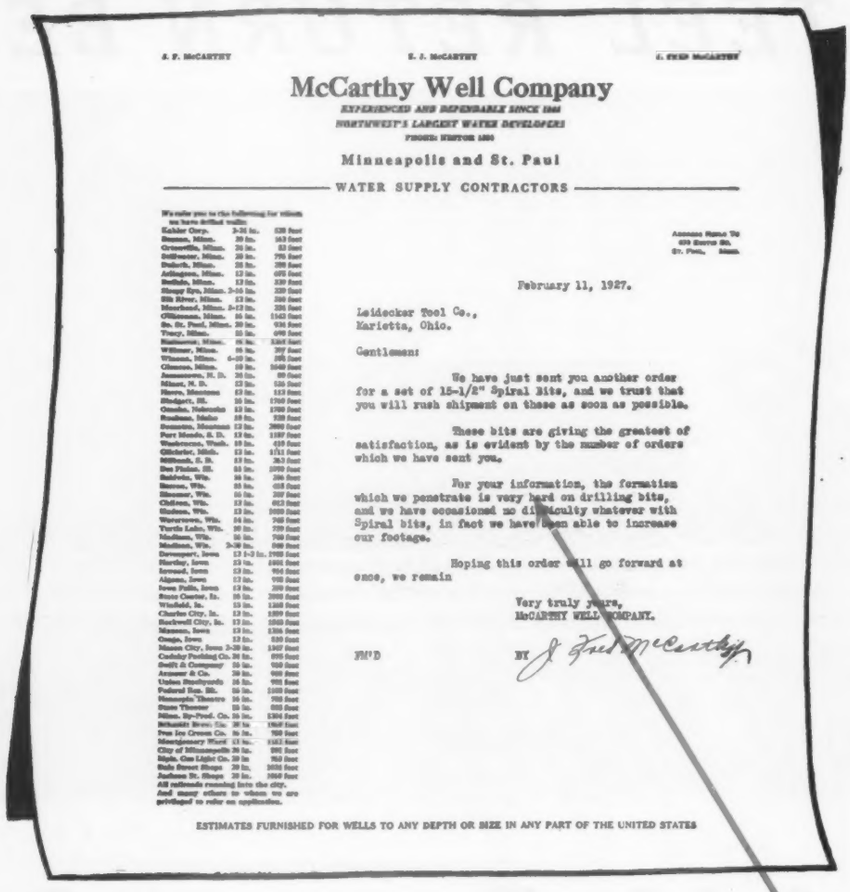
The Ohio Steel Foundry Co.

Springfield, Ohio

Pioneers in Return Bends for Pipe Stills

SALES OFFICES:
Houston—Harrisburg Pipe & Pipe Bending Co. of Texas
Chicago—Peoples Gas Bldg.
New York—75 West St.
Philadelphia—22 So. 18th St
Los Angeles—4920 Loma Vista Ave.

PLANTS IN
Springfield
Lima



A. P. McCARTHY E. J. McCARTHY J. FRED McCARTHY

McCarthy Well Company

EXPERIENCED AND DEPENDABLE SINCE 1888
NORTHWEST'S LARGEST WATER DEVELOPERS
PHONE: NESTOR 1800

Minneapolis and St. Paul

WATER SUPPLY CONTRACTORS

We refer you to the following for whom we have drilled wells:

Kahler Corp.	3-36 in.	538 feet
Benson, Minn.	20 in.	163 feet
Greenville, Minn.	24 in.	82 feet
Dellwood, Minn.	20 in.	775 feet
Duluth, Minn.	20 in.	280 feet
Arlington, Minn.	12 in.	695 feet
Buffalo, Minn.	12 in.	330 feet
Sleepy Eye, Minn.	3-10 in.	220 feet
Elk River, Minn.	12 in.	240 feet
Moorhead, Minn.	3-12 in.	225 feet
Gilbertson, Minn.	16 in.	1142 feet
So. St. Paul, Minn.	20 in.	936 feet
Tracy, Minn.	12 in.	490 feet
Rushmore, Minn.	16 in.	1267 feet
Willmar, Minn.	16 in.	707 feet
Wheaton, Minn.	6-10 in.	285 feet
Glencoe, Minn.	10 in.	1040 feet
Jamestown, N. D.	20 in.	60 feet
Minot, N. D.	12 in.	150 feet
Havre, Montana	12 in.	117 feet
Shelby, Mt.	16 in.	1700 feet
Omaha, Nebraska	12 in.	1700 feet
Pocatello, Idaho	10 in.	720 feet
Sunburst, Montana	12 in.	2800 feet
Fort Meade, S. D.	12 in.	1187 feet
Wauberaum, Wash.	10 in.	435 feet
Gilchrist, Minn.	12 in.	1171 feet
Mitchell, S. D.	10 in.	263 feet
Des Plaines, Ill.	24 in.	1970 feet
Baldwin, Wis.	16 in.	386 feet
Barron, Wis.	16 in.	455 feet
Rhinelander, Wis.	16 in.	337 feet
Chilton, Wis.	12 in.	612 feet
Hudson, Wis.	12 in.	1000 feet
Watertown, Wis.	16 in.	740 feet
Turtle Lake, Wis.	10 in.	720 feet
Madison, Wis.	16 in.	740 feet
Medford, Wis.	3-36 in.	840 feet
Davenport, Iowa	12 1-2 in.	1925 feet
Hardin, Iowa	12 in.	1400 feet
Inwood, Iowa	12 in.	956 feet
Algona, Iowa	12 in.	930 feet
Iowa Falls, Iowa	12 in.	1000 feet
Storm Center, Ia.	16 in.	2000 feet
Winfield, Ia.	12 in.	1300 feet
Charles City, Ia.	12 in.	1200 feet
Rockwell City, Ia.	12 in.	1525 feet
Manson, Iowa	12 in.	1300 feet
Cresco, Iowa	12 in.	630 feet
Mason City, Iowa	3-20 in.	1307 feet
Cudahy Packing Co.	30 in.	600 feet
Swift & Company	24 in.	600 feet
Armour & Co.	24 in.	600 feet
Union Stockyards	16 in.	600 feet
Federal Bon. Bl.	16 in.	1400 feet
Minneapolis Theatre	16 in.	700 feet
State Theater	16 in.	600 feet
Minn. Ry.-Pwrd. Co.	16 in.	1300 feet
Schmidt Brew. Co.	20 in.	1800 feet
Twin Ice Cream Co.	8 in.	700 feet
Montgomery Ward	12 in.	1127 feet
City of Minneapolis	36 in.	600 feet
Minn. Gas Light Co.	10 in.	950 feet
Twin Street Shops	20 in.	1000 feet
Jackson St. Shops	20 in.	1000 feet

All railroads running into the city.
And many others to whom we are privileged to refer on application.

Address Reply To
450 Endicott Bldg.
St. Paul, Minn.

February 11, 1927.

Leidecker Tool Co.,
Marietta, Ohio.

Gentlemen:

We have just sent you another order for a set of 15-1/2" Spiral Bits, and we trust that you will rush shipment on these as soon as possible.

These bits are giving the greatest of satisfaction, as is evident by the number of orders which we have sent you.

For your information, the formation which we penetrate is very hard on drilling bits, and we have occasioned no difficulty whatever with Spiral bits, in fact we have been able to increase our footage.

Hoping this order will go forward at once, we remain

Very truly yours,
McCARTHY WELL COMPANY.

BY J. Fred McCarthy

ESTIMATES FURNISHED FOR WELLS TO ANY DEPTH OR SIZE IN ANY PART OF THE UNITED STATES

LEIDECKER
SPIRAL
DRILLING BITS
Patented
Other Patents Pending

For Hard Formations

For all drilling service Spiral Bits qualify better. Hundreds of users verify extraordinary performance in wet hole. The name they have won—'A fine wet hole bit,' 'an unequalled mud mixer' are jealously upheld but Spiral Bits are equally effective in *hard formations* as this letter confirms.

2 Cutting Edges, 4 Cutting Points, vertical plus self-propelled rotary motion, full-round contact, no glancing strokes, no broken pins, more performance, less grief.

The satisfaction expressed by repeat orders is even more impressive.

"DRILLING TOOLS DESIGNED RIGHT WILL DRILL MORE"

Mid-Continent Distributors
THE BOVAIRD SUPPLY COMPANY
Tulsa Phone 3-9151

Stocks at: Tulsa, Sapulpa, Beggs, Bristow and Seminole, Oklahoma; Independence, Kansas, and Borger, Texas.

Sold by Supply Houses everywhere

Manufactured by
The Leidecker Tool Co.
Marietta, Ohio
Branches at:
Casper, Wyoming
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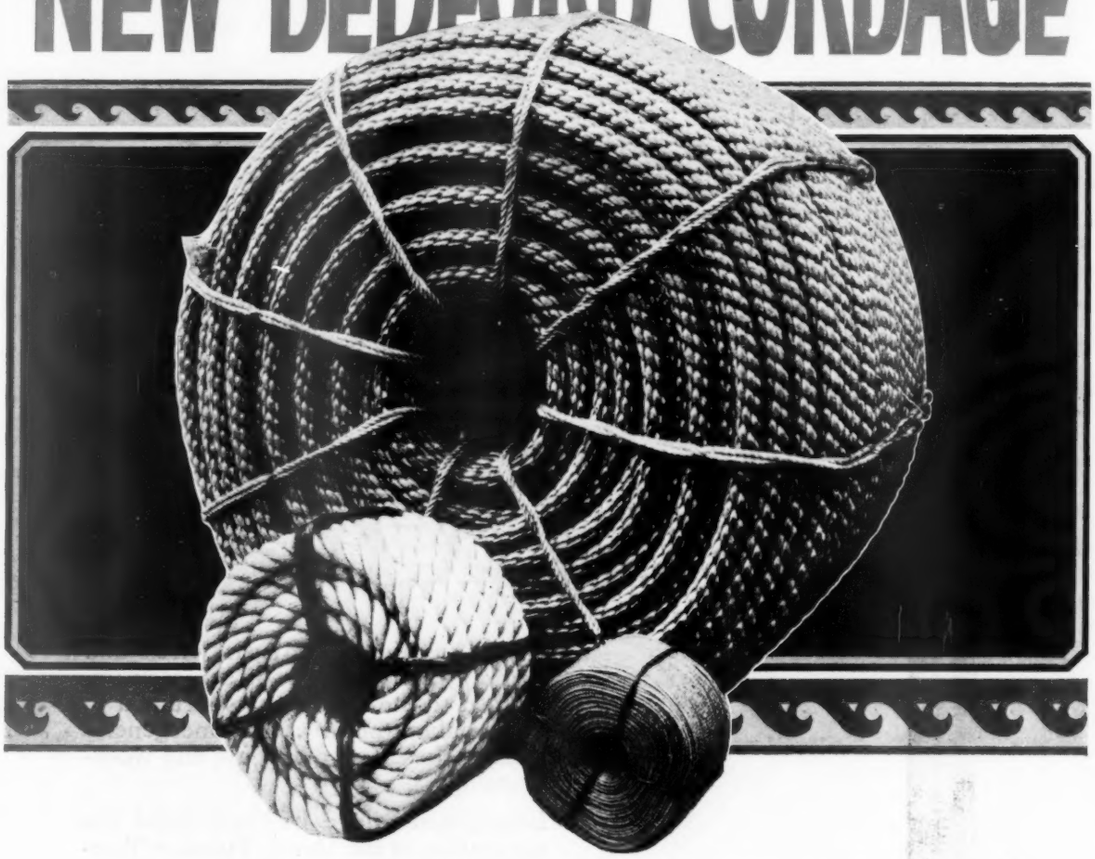
Bartlesville, Okla.
Export Office—90 West St., New York

NEW BEDFORD CORDAGE



DRILLING CABLES
BULL ROPES
TORPEDO LINES

"New Bedford—None Better" has been the slogan of the New Bedford Cordage Company for 85 years, and its claim has been fully substantiated by New Bedford Drilling Cables, Bull Ropes, Torpedo Lines, and other products.

This company was a pioneer in the American manufacture—and has been a consistent pioneer in the *improvement*—of manila cordage.

Only high-grade, pure manila is used—unsurpassed for strength and wearing quality. Special attention is called to New Bedford *Pure Manila* Bull Ropes. Unexcelled for strength and durability.

"If CONTINENTAL Sells It, There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: St. Louis
Export Office: 74 Trinity Court, New York
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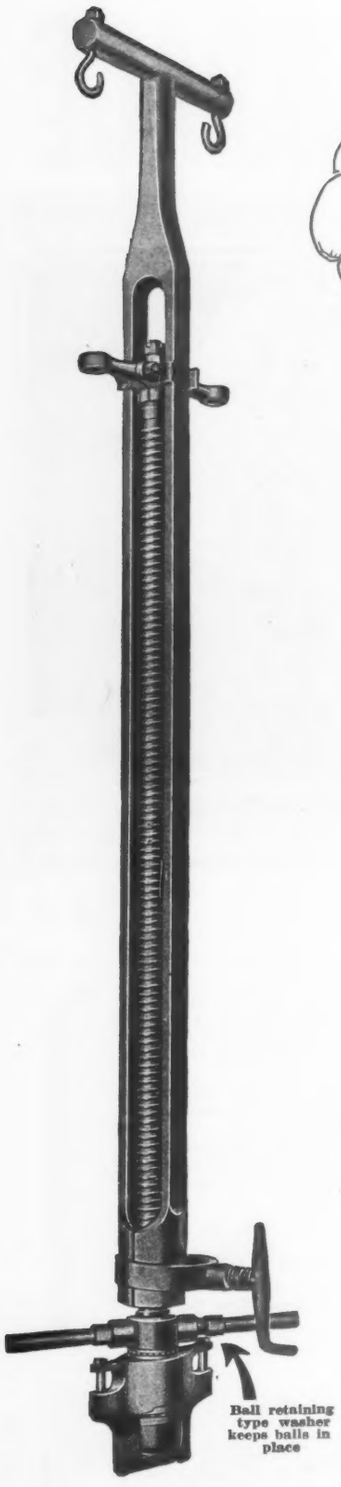
CONTINENTAL



Zoom

Air screeching through wires and struts . . . the roar of a motor unleashed to the limit—parts strained to the breaking point . . . emergencies such as these test materials and workmanship.

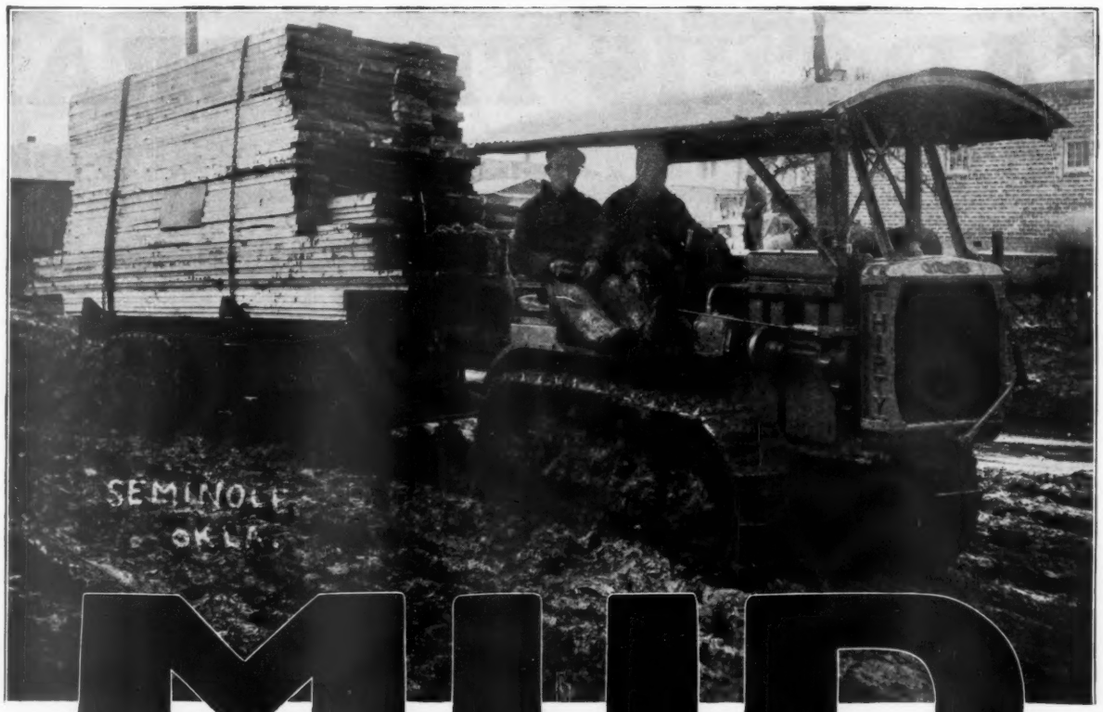
Emergencies have helped build the reputation of the Burns Tubular Temper Screw. The painstaking care taken in manufacture, together with materials of highest quality are responsible for Burns dependability.

TEMPER BURNS SCREW

Use genuine Burns parts for replacement and you will always meet emergencies with assured confidence of dependability.

BURNS Tool Company

OKMULGEE · OKLAHOMA



MUD

Doesn't Stop Athey Wagons

IT'S a problem to get supplies and equipment through on time over road conditions like this—unless Athey Truss Wheel Wagons are used.

Mud and bad roads do not stop Athey Wagons. They carry their loads on two pairs of track wheels rolling on a steel track band. The light running qualities of Athey Truss Wheels are due to this combination of track wheels mounted on anti-friction bearings and rolling on a never-ending highway of steel.

This special construction allows Atheys to carry maximum loads under all operating conditions, haul more loads per day, operate with 30% to 50% less tractive power, reduce operating and maintenance costs, eliminate operating delays, increase number of working days, reduce road maintenance costs and carry capacity loads where ordinary equipment cannot work.

Atheys are the modern, economical means for hauling heavy loads. Send to us for our new folders illustrating the many operating advantages of Athey Truss Wheel Wagons or apply to nearest Caterpillar Tractor Company dealer.

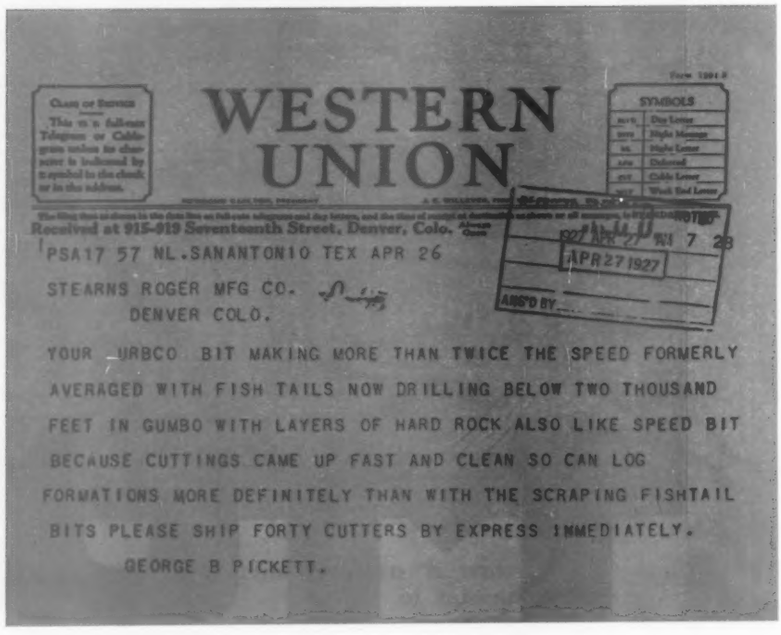
ATHEY TRUSS WHEEL CO.
130 No. Wells St., Chicago, U. S. A.
Cable Address: "Trusswheel, Chicago"

Export Agents:
The Baldwin Locomotive Works, Philadelphia, Pa.

ATHEY TRUSS WHEEL WAGON
IT BRIDGES THE SOFT SPOTS

STEARNS-ROGER

READ THIS TELEGRAM



WESTERN UNION

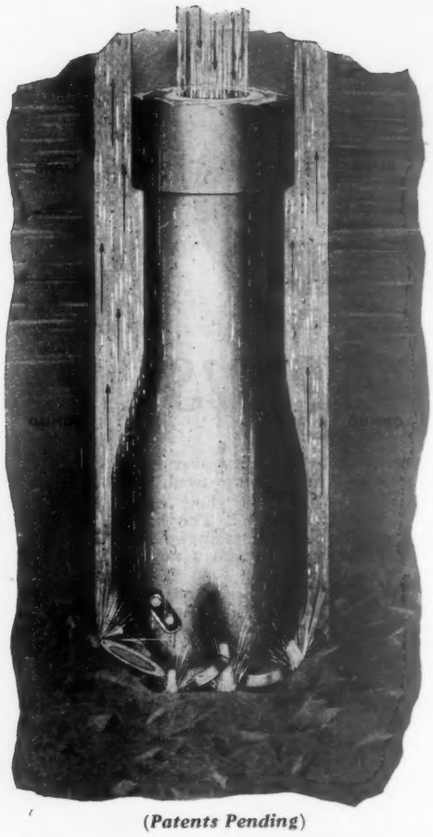
Received at 915-919 Seventeenth Street, Denver, Colo.

PSA17 57 NL.SANANTONIO TEX APR 26

STEARNS ROGER MFG CO.
DENVER COLO.

YOUR URBCO BIT MAKING MORE THAN TWICE THE SPEED FORMERLY AVERAGED WITH FISH TAILS NOW DRILLING BELOW TWO THOUSAND FEET IN GUMBO WITH LAYERS OF HARD ROCK ALSO LIKE SPEED BIT BECAUSE CUTTINGS CAME UP FAST AND CLEAN SO CAN LOG FORMATIONS MORE DEFINITELY THAN WITH THE SCRAPING FISHTAIL BITS PLEASE SHIP FORTY CUTTERS BY EXPRESS IMMEDIATELY.

GEORGE B PICKETT.



(*Patents Pending*)

This Bit Is Going 3 Times As Fast in Many Other Fields

Easy to Log Formations

Write for Bulletin 2732 Describing

The "URBCO" Rotary Bit

Stearns-Roger

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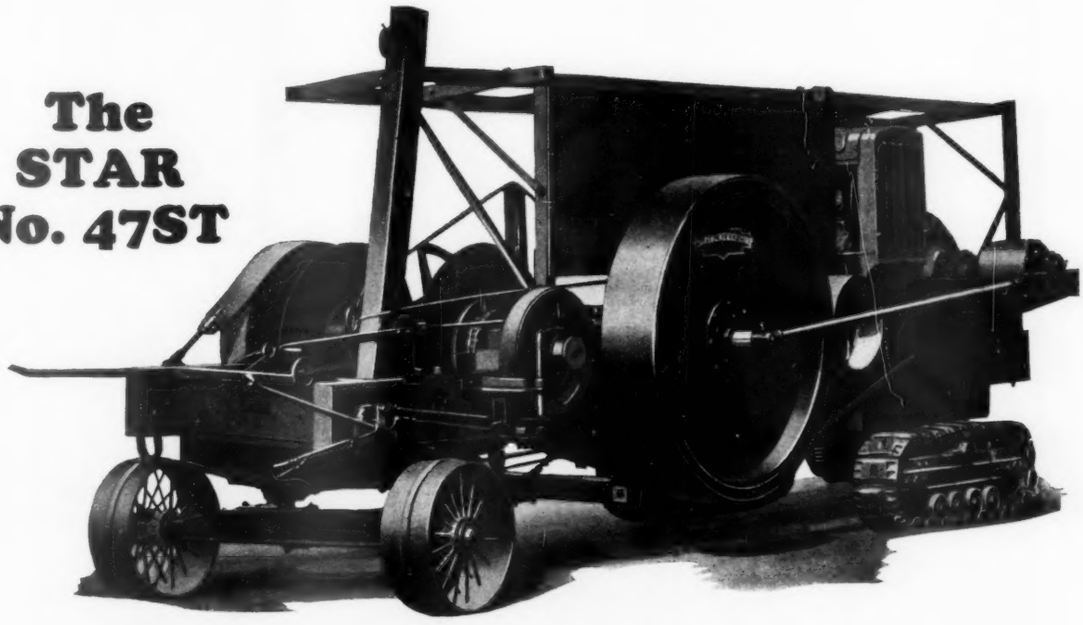

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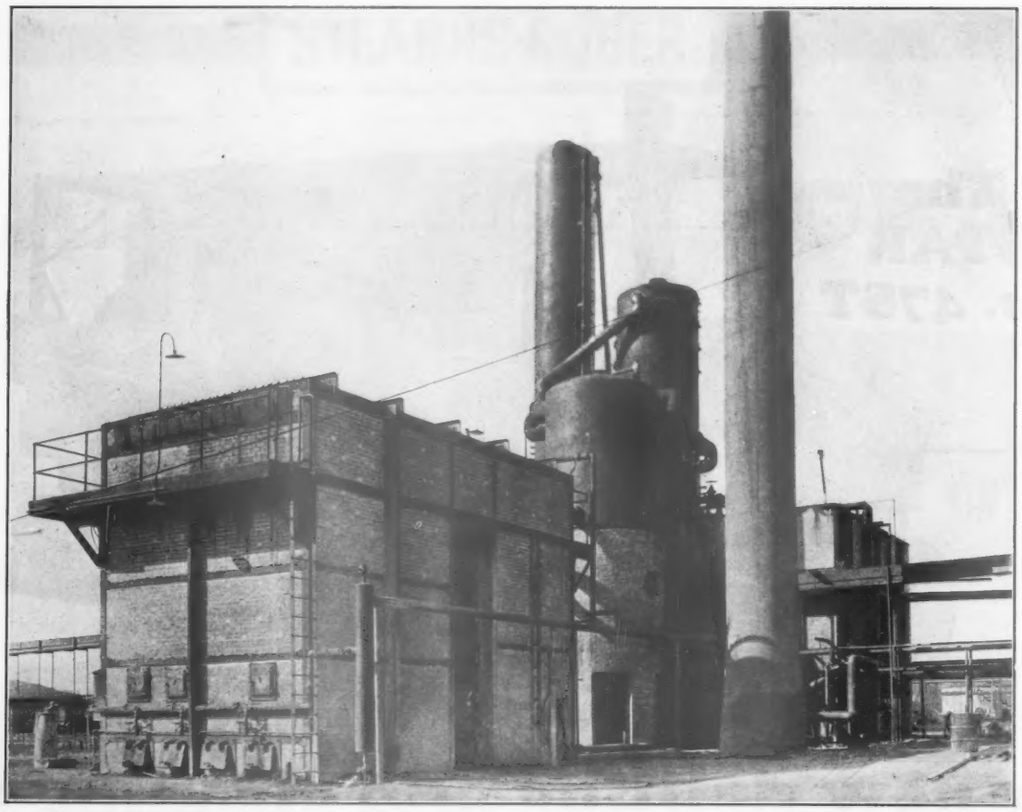

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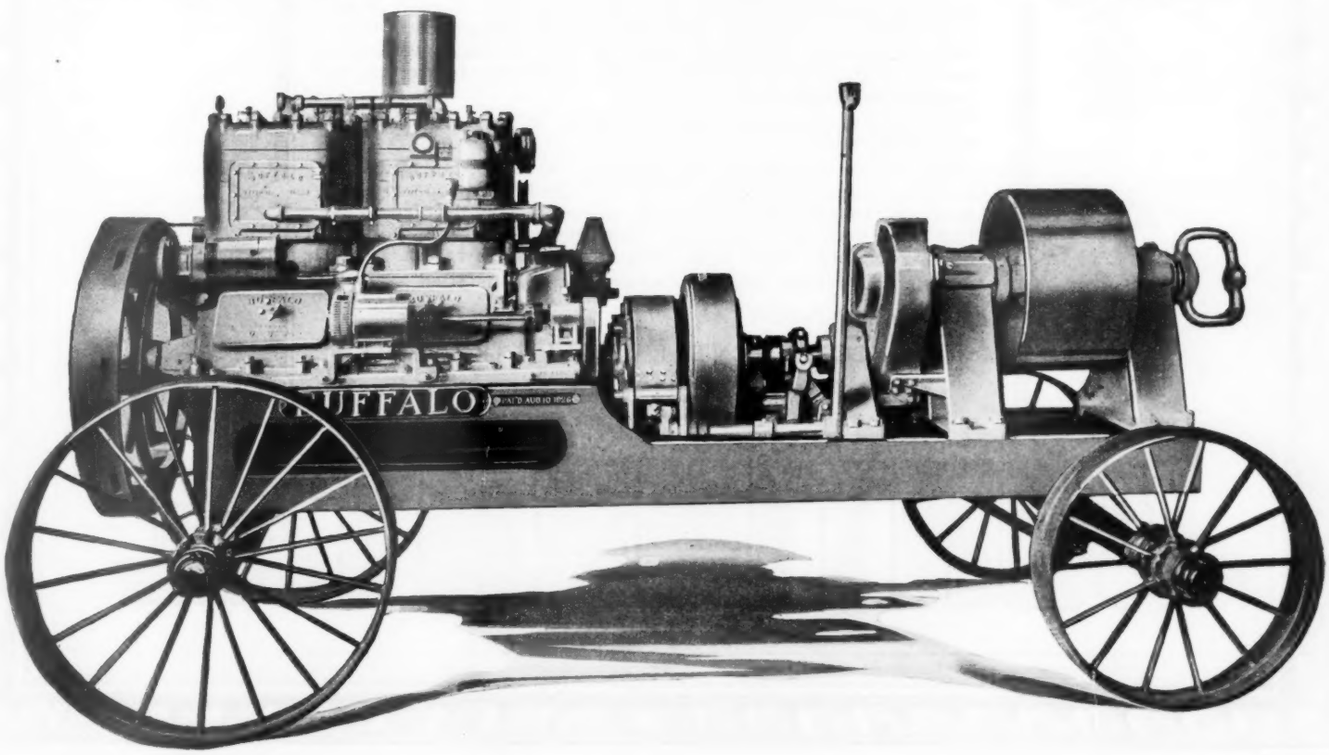

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Production Situation Begins to Clear

Highest daily average estimated production in 1926, week ended Dec. 25, 2,385,139 bbls. Lowest in 1926, January 30, 1,915,960 bbls.

When Seminole Reaches Peak, Probably Within Month, Industry Will Be in Better Position to Judge Outlook

By Andrew M. Rowley

Highest daily average estimated light oil production in 1926, week ended Dec. 25, 1,797,349 bbls. Lowest in 1926, Jan. 30, 1,371,600 bbls.

With the peak of production in the Seminole Field in Oklahoma expected within a month; all indications pointing to the Seal Beach Field in California as having passed its peak; development in active sections in West Texas in the hands of operators who are in position to hold production to facilities for handling it; and the period of maximum consumption of gasoline opening, the petroleum industry soon will be in a position to determine with more accuracy what the situation will be during the latter half of this year. There is no doubt that the present high level of crude oil output will be maintained at least well into the summer, but consumption will begin to show greater gains from now on and it is not at all improbable consumption will overtake production before the end of the summer.

Early estimates of California operators as to the peak at Seal Beach have been revised downward materially and it is thought now that peak was reached during the week ending May 14 with a daily average production of 55,000 barrels. The field showed a daily average decline last week of 9,000 barrels. The peak at Seminole now is not expected to exceed 400,000 barrels daily and may not go above 380,000 barrels. When Seminole passes its peak and starts downward, the psychological effect upon the industry will be immediate. It will be well to keep in mind, however, production still will be far above what would insure a most healthy condition in the industry.

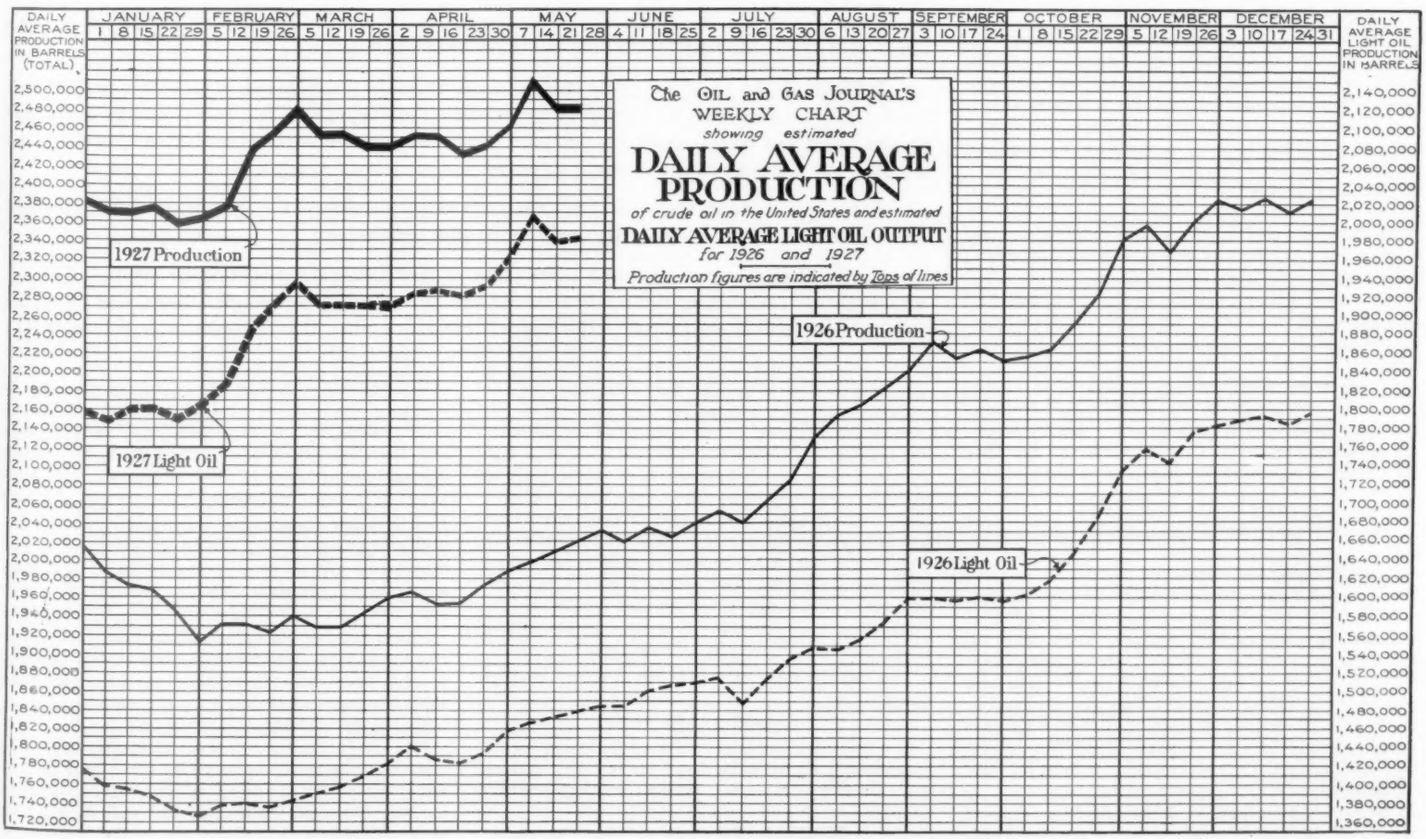
It also must be kept in mind that there is at least 200,000 barrels a day of production shut in throughout the country and that drilling operations in many sections have been curtailed for a time. The longer efforts at curtailment are continued, the better will be the position of the industry when production does start on a downward trend. Production of crude oil at this time averages 475,000 barrels a day more than it was a year ago. The industry will not be able to breathe freely until that figure is at the very least cut in half.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended May 21, and a comparison with the previous week follows:

	May 21		May 14	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	22,915	.....	22,785	.....
Burbank	43,130	.....	43,440	.....
Other Osage Fields	33,730	.....	33,805	.....
Cushing and Shamrock	21,440	.....	21,400	.....
Bristow and Eastern Bristow	27,035	.....	27,010	.....
Cromwell	12,710	.....	13,000	.....
Garber	15,015	.....	15,700	.....
Blackwell-Braman	13,070	.....	13,160	.....
Seminole	351,430	.....	348,950	.....
Wewoka	19,495	.....	19,760	.....
Northern Miscellaneous	110,190	.....	108,570	.....
Southern Fields	66,475	.....	66,600	.....
Total Oklahoma	736,635	.....	734,180	.....
North Louisiana	39,975	8,485	38,905	9,705
Arkansas	23,945	89,440	24,305	89,240
North Central Texas	169,970	.....	169,115	.....
West Texas	119,600	.....	111,240	.....
Texas Panhandle	131,240	.....	130,685	.....
East Central Texas	35,844	.....	36,014	.....
Kansas	114,310	.....	113,760	.....
Total Mid-Continent Area	1,371,519	97,927	1,358,204	98,945
Gulf Coast	.....	153,092	.....	154,014
Southwest Texas	.....	33,070	.....	33,505
Eastern	113,000	.....	114,250	.....
Rocky Mountain Area	89,755	.....	86,625	.....
California—				
Santa Fe Springs	43,000	.....	42,500	.....
Long Beach	93,000	.....	92,000	.....
Torrance	6,000	17,500	6,000	17,000
Huntington Beach	75,000	.....	75,000	.....
Dominguez	15,500	.....	17,000	.....
Rosecrans	10,500	.....	10,500	.....
Inglewood	24,000	12,500	24,000	12,500
Ventura Avenue	40,000	.....	41,500	.....
Seal Beach	46,000	.....	55,000	.....
Remainder of State	57,000	187,000	58,000	189,000
Total California	411,000	217,000	421,500	218,500
Total United States	1,985,274	501,087	1,980,579	504,964
Grand Total		2,486,361		2,485,543

Total Increase, 818 Bbls.; Light Oil Increase, 4,695 Bbls.



Operators Agree on Curtailment Plan

Seminole Producers Will Restrict Drilling of Virtually All Outside Wells and Limit Production in Prescribed Locations

By L. M. Fanning, New York Bureau, The Oil and Gas Journal, and Charles E. Kern, Washington Bureau, The Oil and Gas Journal.

NEW YORK, May 25.—At the meeting of Seminole operators held here today a plan submitted by Ray M. Collins, umpire named by the operators, was adopted by the conferees restricting drilling and completion of unnecessary wells in the Seminole Pool and vicinity. The plan restricts the drilling of virtually all outside wells and limits the production in prescribed locations detailed in Mr. Collins' plan. The conference was attended by operators representing the bulk of the production. While the Gulf Interests were not represented at the meeting, Mr. Collins stated at the conclusion that he could state positively that the Gulf would co-operate. The Doherty Interests were represented at the meeting with an observer not authorized to act and therefore they did not vote on the agreement. Mr. Collins stated, however, that he was sure the Doherty Interests would co-operate and that he anticipated practically 100 per cent co-operation.

The agreement reached covers only the Seminole area. Some of the conferees stated similar plans might be adopted for other pools if the present one is found workable.

Continues Indefinitely

The agreement remains in effect indefinitely or until such time as ten signatory companies shall have served notice upon the umpire of their withdrawal.

Mr. Collins said he did not look for any change in Seminole area production for two weeks or probably a month as a result of the proposed curtailment but that thereafter a substantial drop should occur.

The New York meeting followed a conference at Washington before the Federal Oil Conservation Board on Monday when the withdrawal of George S. Davison, representing the Gulf Oil Corp. on a committee of five appointed at the New York conference two weeks ago was learned. Due to this development and the known position of the Doherty Interests and the Barnsdall Corp. some doubt of the success of the New York meeting was entertained. After the meeting, however, the general opinion was that definite measures had been accomplished.

No further meeting of the Seminole operators is planned. As soon as the plan begins to operate the Seminole operators will make a progress report to the Federal Oil Conservation Board, according to W. C. Teagle, president, Standard Oil Co. of New Jersey who originally called the conference.

Conservation will come up at a meeting of the executive committee of the American Petroleum Institute scheduled for tomorrow. Action is expected on the report of the committee on gas conservation of which E. W. Marland is chairman.

Plan Adopted at Meeting

The plan submitted by Mr. Collins follows in full.

"To the Seminole operators:

"The undersigned having been appointed umpire in the greater Seminole area at a meeting of Seminole producers held in New York May 12, and requested by resolution of such operators to make a survey of the greater Seminole area and assemble such data as might bear on the further restriction of drilling therein, and report his recommendations in this respect to another meeting of the Seminole operators to be held in New York May 25, 1927, reports as follows:

"Since my appointment, I have made a personal survey of conditions existing in the greater Seminole area and have interviewed a majority of the producers operating there for the purpose of obtaining their views as to a method of meeting the condition existing in this field. I find that the producers are divided in their opinion as to the effect of curtailing production from existing wells. Some believe that such a program would not only seriously damage their wells but would reduce the ultimate recovery therefrom, while other producers take the contrary view. It is my opinion that the only program that would be considered by the Seminole operators is something along the line suggested in this report."

The report then outlined Mr. Collins' recommendations.

Resolution Adopted

A committee composed of H. M. Dawes, W. S. Fitzpatrick, E. B. Reeser and Mr. Collins drafted the following resolution which was unanimously adopted:

"Be it Resolved: That we approve the report of Umpire Ray Collins regarding the plan of restricting the drilling and completion of unnecessary wells in the Seminole Pool and vicinity, and that the services of Mr. Collins as umpire be continued.

"Be it further Resolved: That all questions of appeal to the corporation commission for the exercise of any authority vested by law in said commission be left to the determination of the operators in the Seminole Pool or their local representatives, in a meeting called for such purpose.

"Be it further Resolved: That these resolutions continue in force until such time as ten or more of the operators subscribing to this resolution shall have served notice upon the umpire in writing of their withdrawal herefrom.

"Be it further Resolved: That we are committed to the policy adopted by the Seminole producers, in so far as our operations extend throughout the State of Oklahoma, and will do all that we reasonably and lawfully can in the interest of

RECOMMENDATIONS ADOPTED AT NEW YORK MEETING

The recommendations contained in the report of Ray M. Collins, Seminole area umpire, which were adopted at the New York meeting of Seminole operators, follow:

1. There is a general feeling among the Seminole operators that the condition of overproduction now existing in the industry is due as much to the West Texas and California Fields as it is to Seminole. At any rate, that the potential production in West Texas is as much a menace to the industry as Seminole.

2. At present there are 450 wells drilling in the Seminole area. With the exceptions I shall note, all of these should be drilled in, due to drainage and loss of pressure conditions. It is my opinion that the following wells are so located that they may be limited in production without substantial drainage or loss of pressure. I would put that limitation as follows: Twenty-two wells in Sections 1, 2, 14 and 24, Township 9n, Range 5e, these wells to be limited to 1,000 barrels from the Wilcox sand to each 40-acre tract; 49 wells drilling in Sections 11, 12 and 13, Township 9n, Range 5e, to be limited to 2,000 barrels from the Wilcox sand to each 40-acre tract. The following two sets of wells are located in what may be termed undeveloped territory and therefore the production therefrom may be considerably curtailed because of there being no drainage or loss of pressure. In the 13 wells now drilling in Sections 1, 4, 5, 8, 17, 21, 26, 28, 30 and 31, Township 8n, Range 6e, I would limit the production to 100 barrels per well. Four wells drilling in Sections 31, 29, 20 and 2, Township 9n, Range 6e, I would limit the production to 100 barrels per well. In addition to the wells described above there are 96 rigs and drilling wells in Townships 7 to 11n, Ranges 3 to 7e, inclusive. Practically all of these are in undeveloped territory, but which have prospects of opening up new pools. Most of these wells are being drilled under time contracts or are necessary to protect lease titles. Therefore, they should be permitted to drill in, but the production should be limited to 100 barrels per well because here again there will be no drainage or loss of pressure. Should my recommendation under this paragraph be considered, I will have with me a map showing location of the wells indicated here so that each producer will know how he is affected by these recommendations.

3. Upon the basis of the facts stated in the preceding paragraph I recommend that this limitation on production be agreed to by the Seminole operators in general and in particular by the operators whose wells are included in this recommendation, the details thereof to be worked out between the operators affected and myself as umpire.

4. It is my opinion that the above recommendations should be carried out by agreement among the producers owning the wells to be affected thereby.

5. I further recommend that a committee of five Seminole operators be appointed to advise with me concerning the application of the progress recommended here and that the drilling restrictions suggested in this report terminate when this committee shall so decide.

conservation of oil as a national resource, to the end that waste, as defined by the statutes of Oklahoma, may be avoided."

Operators Co-operating

After the meeting, Mr. Collins discussed the work that had been done since his appointment as umpire two weeks ago. He said he obtained co-operation among the operators generally.

"In the Earlsboro district we were not able to stop drilling," he said, "and did not expect to. Wells already drilled were taking oil from the others drilling and there was no equitable way to stop such drilling. Outside drilling wells, however, edge wells and wells within 3 miles were stopped and we had the co-operation of operators in every way. I estimate that about 48 wells were stopped. If they had been drilled, 50 more would have started and then probably 400 or 500 additional."

Mr. Collins, in stating his belief that the Gulf Oil Corp. would co-operate, cited instances where the Gypsy Oil Co., its producing subsidiary, had shut down or pinched in wells in outside territory, for instance its wells in Section 33. This probably stopped drilling of at least 25 wells. He said the Empire had also stopped drilling in a similar way.

"The discussion today," said Mr. Collins, "related only to the Seminole Pool but it is an incentive for like action in other prolific fields which may take cognizance of the fact that this action has been taken in Seminole."

Mr. Collins said he was unable to state whether the plan adopted today would have to be submitted to the state authorities. He did not know whether that phase of the problem had come up in the discussion but he did know that the state was always advised of what is going on in the oil fields.

Asked what he thought of the prospects of success of the plan as adopted, Mr. Collins replied with confidence: "I know we have enough co-operation to make it a success. The operators in the Seminole Pool have co-operated in every move we have made."

The attendance at the meeting here included Seminole operating companies which announced their disagreement with the preliminary plan for restriction worked out at the New York conference two weeks ago. These included the Barnsdall Corp. and the Doherty Interests. The Gulf Oil Corp. was not represented, which was expected in view of the resignation of George S. Davison from the committee appointed at the first curtailment meeting. Mr. Davison's resignation became known when the committee appeared before the Federal Oil Conservation Board on Monday.

The position of the Barnsdall Corporation taken in today's conference was one of co-operation in working out any new plan. E. B. Reeser and J. A. Dunn were present and early in the meeting explained that they were willing to do everything possible toward the working out of a solution. In this connection it is understood that the position of the Doherty Interests, represented at the conference by Judge H. L. Caster, differed from that of the Barnsdall Corp. Judge Caster attended as an observer. Mr. Teagle was named chairman of the meeting and Mr. Dunn secretary.

Position of Gulf Oil Corporation

There was no official statement given out at the close of the morning session explaining the resignation of Mr. Davison from the committee appointed at the first conference. As in the case of the hearing before Secretary Hubert Work, chairman of the Federal Oil Conservation Board in Washington on Monday, The Gulf Company ignored the meeting here today. Mr. Davison, in withdrawing from the committee, has simply followed the policy that has characterized the Gulf Co. on many former occasions favoring independent action. This is not necessarily an indication that the Gulf Co. will decline to adopt measures that may be recommended for the control of production but rather a desire to avoid being bound to a course of action that it may not fully approve and to avoid the embarrassment that would be encountered by withdrawal of co-operation after the adoption of a definite program by a majority of operatives in the Seminole Field.

The members of the original committee were W. C. Teagle, Standard Oil Co., of New Jersey; A. L. Beaty, The Texas Company; Henry Dawes, Pure Oil Co.; Mr. Davison, and R. W. Stewart, Standard Oil Co. of Indiana.

Those in Attendance

Those attending the conference today included E. B. Reeser and J. A. Dunn, Barnsdall Corp.; E. Jacobson and E. De Golyer, Amerada Petroleum Corp.; W. S. Fitzpatrick and D. H. Kelsey, Prairie Oil & Gas Co.; W. M. Irish, Atlantic Producing Co.; H. M. Dawes and R. W. McIlvain, Pure Oil Co.; A. L. Beaty and D. L. Moran, The Texas Company; H. F. Sinclair, Sinclair Consolidated Oil Corp.; H. L. Caster, Empire Gas & Fuel Co.; H. L. Pratt, Magnolia Petroleum Corp.; A. J. Byles, W. C. Franklin and E. H. Salerin, Tidal Oil Co.; E. W. Marland, Marland Oil Co.; R. W. Stewart, Standard Oil Co. of Indiana; J. A. Veasey and R. M. Young, Carter Oil Co.; W. C. Teagle, Standard Oil Co. of New Jersey; E. H. Moore, Independent Oil & Gas Co.; J. Glass, Turman Oil Co.; George A. Dye, Wilcox Oil & Gas Co.; J. E. Van Eck, Roxana Petroleum Corp.; E. V. Pough, Westland Oil Co.; Ray M. Collins, Echo Oil Co., and W. G. Skelly, Skelly Oil Co.

Institute Committee Meeting

A meeting of the executive committee of the American Petroleum Institute comprising the officers of the organization and Messrs. Clark, Marcell, Davis, Benson, Beaty, Farish, J. Edgar Pew, Teagle, Davis, Stewart, Marland and Doherty is scheduled for tomorrow and the committee is expected to act on the resolution passed by the Gas Conservation Committee headed by Mr. Marland proposing that the Institute should encourage the passage of appropriate legislation to secure the uniform practice of the principle of prevention of waste of gas in the production of oil in all the important oil and gas producing states. The committee asked that the president of the Institute be authorized to extend the authority of the committee so as to attain these ends. It is also possible that there will be a report presented by the legal committee appointed by the Institute to study legislation in connection with co-operative agreements among oil operators. Judge Beaty is chairman of that committee.

Before the Seminole conference today it was explained by one in close touch with the position of the Doherty Interests in the Seminole area that they had repeatedly suggested stopping drilling operations but that these suggestions had been turned down and they had been forced to go ahead with development particularly in the Lima district. After large expenditures it was impossible for them to enter into a shutdown agreement at this time. The Indian Territory Illuminating Oil Co. and the Empire Gas & Fuel Co., it is estimated, have spent $10,000,000 to $15,000,000 for wells and transportations and storage facilities.

REESER CONGRATULATES PETROLEUM INDUSTRY AND THE OIL AND GAS JOURNAL

NEW YORK, N. Y., May 25.—E. B. Reeser, president, Barnsdall Corp., made the following statement congratulating the industry on today's action and The Oil and Gas Journal upon "the successful campaign it has been waging toward stabilization of the industry." His statement follows:

"Congratulations are due the industry on having held a meeting at which practically all the leaders of the industry were present. Their unanimous decision was reached after careful consideration of the situation. While the definite agreement to curtail drilling is confined to the Seminole area and vicinity those present committed themselves to the adoption of the same policy wherever their companies may be operating throughout the State of Oklahoma. California companies are all doing their share in a very constructive manner. Supervisor Bell of Texas should receive the support of the industry in that state toward the adoption of legislation which will remove the legal obstacle now interfering with a constructive conservation program similar to that adopted at Seminole.

"I regard today's action as a long step in the right direction but operators should not regard it as a signal to proceed with the development of new production. It also shows that the industry can solve its own problems.

"I congratulate The Oil and Gas Journal upon the successful campaign it has been waging toward stabilization of the industry."

SEAL BEACH REACHES PEAK; NOW DECLINING

LOS ANGELES, Calif., May 23.—The Alamitos Heights section of the Seal Beach Field actually went over the top on or about May 9, at which time the entire district was producing a little in excess of 58,000 bbls. daily. Field production slipped the following week to 55,000 bbls. daily and is doing 46,000 bbls. at the present time.

Notwithstanding the fact that something like 50 drilling wells are due for completion in the very near future this field will continue its downward slide at a rapid rate due to exhaustion and depletion. Seal Beach production did not ever reach the peak generally expected due to delay in completing new wells and the inability of producers to negotiate pipe line connections with marketing companies thus being obliged to shut in.

The Alamitos Heights section has proved the biggest flop ever witnessed by the California oil industry and losses due to unwarranted drilling will run into the millions. The entire field is showing decrease gas pressure and this is not only resulting in a smaller initial production of new wells but it has also resulted in the dying of 12 producers a few days ago. The pumping era is fast approaching but unless conditions improve it will hardly prove economical to pump at present prices and perhaps not possible at all 60 or 90 days hence on account of the thin 50-foot sand.

Over 50 per cent recovery of crude has been effected to date in the town lot area and only a small part of the entire number of operators will ever secure their original copital investment. From present indications there will not be more than one or two flowing wells in the present townsite 30 days from now. The only hope of operators lies in the development of a second sand and while this is possible very few really entertain any great hope along this line.

Federal Oil Board Offers Its Services

Chairman Work Outlines Views at Washington Meet of Oil Men. Progress Report Made on Seminole Situation

By Charles E. Kern
Washington Bureau. The Oil and Gas Journal

WASHINGTON, D. C., May 23.—The conference between the Federal Oil Conservation Board and the committee of oil company executives was held here today at the Department of the Interior. The meeting was entirely harmonious and lasted but half an hour during which time Chairman Hubert Work outlined the attitude of the Government toward co-operative measures for the furtherance of conservation in the oil industry and Walter C. Teagle, president of the Standard Oil Co. of New Jersey, explained what was being done by the committee representing the Seminole district in Oklahoma for the same purpose.

Mr. Teagle's report was purely one of progress and embodied no plan for a curtailment of oil production. He explained that everything must wait upon the meeting to be held in New York Wednesday, May 25, when Ray M. Collins, designated as umpire of the oil interests in the Seminole Field will report upon measures desirable to control production there.

Members of the committee who appeared before the oil board today in addition to Mr. Teagle were Amos L. Beaty, chairman, The Texas Company; Henry Dawes, president, Pure Oil Co.; and Col. Robert W. Stewart, chairman, Standard Oil Co. of Indiana.

Except when a question was asked of Colonel Stewart, the complete report of the committee was made by Mr. Teagle. George Otis Smith, director of the United States Geological Survey, and H. H. Hill, chief petroleum engineer, United States Bureau of Mines, were present and each took occasion to ask a question of Mr. Teagle.

In the audience was former representative Phil Campbell of Kansas; Fayette B. Dow; W. R. Snyder, assistant secretary of commerce; Earl Haines, Federal trade commission; James Stanley, general counsel Continental Oil Co.; Daniel J. Danker, and John H. Nelson, petroleum division, department of commerce.

Views of Federal Board

The meeting was opened by Secretary Hubert Work, who expressed the views of the Federal Oil Conservation Board respecting the purpose of the meeting. Secretary Work said:

"Gentlemen: There is little need for me to explain why this conference has been called. The oil industry is confronted with overproduction of crude petroleum. Economic conditions are disarranged, temporarily at least and the chief executives of the larger oil companies have indicated a desire to represent to this board certain facts and tentative plans which they feel likely will ameliorate present conditions.

"I regret that the full membership of the board is not present but you are welcome to express your views and leave with us such material as you feel will contribute to our better understanding of your problems. These facts will be laid before the full board, which will weigh the minutes of this meeting and endeavor to render such help as may be possible.

"What is proposed for discussion is an involved problem that has now become acute. It is the much talked of theory of conservation brought to a test. The board is concerned as individual administrators of government activities; the Army and Navy as necessary consumers; the Department of Commerce in stable markets; and the Department of the Interior in locating and conserving deposits and in supervising the production of one-tenth of our national petroleum output. Collectively, the board has a moral responsibility in safeguarding the interest of some 30,000,000 actual consumers of oil products.

"You gentlemen understand, of course, that legal powers have not been conferred on the Federal Oil Conservation Board to prescribe, approve, or disapprove any definite plan, or fix limitation upon legitimate private initiative. We are what might be termed an advisory or co-operative agency. Fundamentally this board is a conservation body, primarily interested because of the Government's responsibility for the best interests of all the people. It was created for the specific purpose of conducting an intensive study into national petroleum conditions with a view to laying before the President and the Congress the facts as they seemingly exist in relation to the present and potential natural oil resources of the country.

Haste in Production

"The board has rendered one report based upon a general survey of conditions which indicated the necessity for practical and constructive conservation in the production of oil as well as through intelligent use. Certain specific suggestions were incorporated in that report. The board believed at the time the report was rendered to the President, and it still believes, that the oil industry should be encouraged to employ more conservative and economic principles in the conduct of its drilling operations. There has been haste, waste, and disregard for the laws of economics. The industry today is being penalized for neglect of these precautions, particularly as to haste in production.

"The Federal Oil Conservation Board is concerned with the stabilization of all factors involved. If it can assist the industry as a whole to more satisfactorily meet its obligations to the public and the Government, and at the same time improve and protect its own structure, it will have performed a real service.

"I hope you gentlemen understand that this board is ready and willing to co-operate, not only with the heads of the oil industry, but with the various state regulatory commissions, with independent operators and wildcatters, the consumers of petroleum and its by-products—the man who may buy one gallon of gasoline, as well as the concern which may buy 1,000,000 gallons. The machinery of the Government is equally open to all for the consideration of this question. The board has no field or traveling representative or anyone authorized to forecast its probable findings; it must first hear the matter.

"This meeting was called at your request. We are pleased that you were moved to do so and we should like a free discussion of any phase of the subject at issue so that all of us may better understand just what may be done to protect the Government, the public and the industry alike. I believe there is a community of interest.

"With the idea that general and widespread benefits outweigh individual and scattered advantages there is naturally linked the idea of subordinating temporary advantages to long-term benefits. This in a way is what oil conservation means—considering the industry as a whole rather than a few individual units and over several decades instead of a few months. It is the future welfare of your whole industry. That means more to the general public than the ups and downs of a single year. And the whole industry includes small units of production along with large—both the little companies and the big corporations.

Settled Production Important

"The Federal Oil Conservation Board is cognizant of the fact that overproduction brings in its train results much more serious in losses which small operators are suffering than in any burdens placed on the larger and stronger companies. Indeed the competition in an over supplied market, between oil from new flush pools and oil from small wells in old fields may cause the abandonment of producing wells of the type that constitute stable production, destroying small producers widely distributed and inflicting a serious loss to the nation. Prices below cost, if long continued, have that result and the privilege of profitable operation must be secured, if possible, to the small producers, whose aggregate output is large and will be needed by the consumers when the present period of surplus is past.

"That the land owner, as distinguished from the oil operators, has not yet been mentioned may seem strange, in as much as the Secretary of the Interior represents two fee owners, the largest in the country; the Indians and the Federal Government itself. As the administrator in charge of the publicly owned lands, the secretary's authority is greater than as trustee for the Indians. During this period of overproduction, the policy of the Interior Department has been to meet the operator on government land more than half way in any effort he wishes to make in helping the situation.

Government Shut In Production

"As the administrator of government oil leases the Secretary of the Interior has believed it to be the Government's interest to conserve oil in the ground at a time when overproduction contributes to waste of that oil above ground. In that respect the government lessor and operator lessee have much the same interest and petitions for relief from operating requirement in government leases have been sympathetically received and promptly granted. The Government has also refrained from putting its oil land holdings on the market when production is unneeded and unprofitable so far as the law permits this type of conservation. It may interest you to hear that on public oil lands there is today an actual shut in production of 120,000 bbls. a day—production, practically all of which can be immediately made available when the market needs it. In other words, the wells on government lands are at present producing less than half capacity.

"Clearly, the oil industry needs its business stabilized and the public should be assured of adequate supply and freedom from price fluctuations. Conservation measures will be justified and become popular with both producer and consumer if they are directed toward lowering cost of production and effecting savings in oil, in labor, and in capital expenditure.

"This indicates the attitude of the board, gives you a knowledge of its limitations, while assuring you of its sympathy with the industry, and the matter is now before you for discussion. We will be glad to hear from anyone on any phase of this question."

Mr. Teagle's Statement

Mr. Teagle: "Mr. Secretary, I want to express my appreciation of the opportunity of listening to that most constructive statement you have just read. I think it will answer, in the minds of a great many people in the industry, a good many

questions they have been asking; it certainly will answer some of the questions we had in mind when we came down here to this meeting.

"I have not prepared any formal statement. We are here to tell you what has transpired in the last ten days or two weeks.

"We had a meeting in New York a week ago last Wednesday. This meeting was called on rather short notice and, unfortunately, we could not get in touch with each and every one of the individual operators in the Seminole district. As many of them as we were able to get in touch with attended the meeting—probably 12 or 14 of the important producing companies operating in the Seminole area were represented.

"The meeting was not called to consider any definite plan. It was simply called for the purpose of getting around the table to consider what, if anything, might be done in a co-operative way, and entirely within the law, that would tend to ameliorate the condition of overproduction.

"The meeting lasted for nearly two days. It became early apparent in the consideration of the question that overproduction did not confine itself to the Seminole Field but existed, as well, in other fields—California, West Texas—and that any solution of the entire question of overproduction was quite impossible if it simply started and stopped at Seminole.

Drilling and Overproduction

"We felt, however, that if we were going to start we had to commence somewhere and might possibly make some sort of commencement at the Seminole, so we started in to analyze several of the different causes leading up to overproduction. There was one thing we could all agree on without any question and that was that if we did not drill any oil wells we would not have any overproduction. Starting with that point, it is apparent that in a short time overproduction would take care of itself. Now about the question of drilling a lot of unnecessary wells in Seminole, we decided we could at least make a start by getting somebody who has no personal interest in the Seminole Field, some one who is a practical oil man, to look the field over and see just what the situation is from the standpoint of drilling unnecessary wells.

"Back in November when the pipe line capacity of the Seminole Field looked as though it might not be sufficient to take care of the production and some oil might have to be stored in dirt, Ray M. Collins was brought into the situation. Mr. Collins is a resident of Tulsa, and a practical operator, and he was asked to act as a sort of umpire during that period. Everybody present at this meeting had every confidence in Mr. Collins' fairness, knowledge of the situation and practical ability as an oil operator and they all said 'Let's ask Collins to go into this situation carefully and, in the meantime, let's agree among ourselves and have it understood that if Mr. Collins says we are drilling unnecessary wells, we will shut them down.' This was to be tried out for two weeks, then another meeting was to be held in New York on Wednesday, May 25, to which each and every operator in the Seminole Field has been invited. Mr. Collins will be there with his maps and other data and outline a definite program in regard to just what, if any, unnecessary wells may be dispensed with in the Seminole Field. A committee was appointed, Mr. Secretary, to advise you immediately the results accomplished and the committee is here today.

Few Unnecessary Wells

"When we arrived here this morning, we received a preliminary report from Mr. Collins in which he makes it plain that the number of unnecessary wells is comparatively small so far as the Seminole Field itself is concerned and it is doubtful whether the mere curtailment of drilling of unnecessary wells will really accomplish anything of a constructive character. He makes certain other suggestions in his report which he thinks the operators should consider and which he hopes, if the operators will work along them, would be effective and accomplish something in the Seminole area. These suggestions will be considered at the meeting which will be held in New York on Wednesday where it will be considered by each and every operator in the Seminole area. We anticipate there will be a full attendance of operators. Whether they will all, or a sufficient number of them, agree to Mr. Collins' plans, or to any other plan insofar as the Seminole Field is concerned, I cannot say—none of us can say at this time—it all depends upon the outcome of that meeting. If anything is done at that meeting, and we hope something will be worked out, it will be very promptly reported to you, Mr. Secretary. This, Mr. Secretary, is the situation at present so far as it is possible to outline it."

Confined to Seminole

Secretary Work: "In your remarks, Mr. Teagle, you have confined yourself entirely to the Seminole area. Are you not prepared to give any suggestions as to conservation as a whole?"

Mr. Teagle: "No, Mr. Secretary, but as I stated this is a large industry—it is an industry that is made up of a great many different factors. People who are interested in one particular line of the oil business may not be interested in other lines. As you very ably expressed it in your statement, you realize the complexities of the situation. What we want, speaking not for myself, but for the committee, is to make a start on some one field and Seminole seemed the best one to make it in because that is the field the public knows the most about; it has had much more newspaper publicity than any of the other oil fields. Last week Seminole produced 365,000 barrels per day. We want to be sure that the plans we may make shall be absolutely and entirely within the law so far as Seminole is concerned and, if those plans work there, they would set an example which we would hope would later be followed in other districts which are contributing as much to overproduction as Seminole; in fact, every well that produces even one barrel a day is contributing to overproduction."

Secretary Work: "Then, we are to understand that this is a preliminary report and a progress report from Seminole, if your plans are successful and work out there, will be made and tried out in other areas?"

Meeting for Seminole Only

Mr. Teagle: "Either that or modification which may be suggested by the trial of these plans in Seminole. The success of any plans we may make is of course entirely dependent upon the co-operation of the interested companies in the area. So far only those interested in Seminole have been in conferences; there has been no conference for California or Texas interests; the meeting on Wednesday is only of the Seminole interests. Invitations to this conference are limited to operators in the Seminole area."

George Otis Smith: "May I ask Mr. Teagle what his information is regarding shut-ins throughout the country."

Mr. Teagle: "There is no way of telling what is actually shut in but I can give you our figures, which are only a guess. At the end of April they put the estimate of shut-in production in the United States as 20,000 barrels per day for Southwest Texas; 60,000 barrels per day for California; and 75,000 barrels per day for the Rocky Mountain area; a total of 155,000 barrels; and they are carrying May figures for California at 85,000 barrels."

H. H. Hill: "I have seen a statement somewhere that there would be an increase of several hundred thousand barrels in 30 days unless something was held back."

Mr. Teagle: "I cannot say as to that because it would be pretty hard to tell what a well would do. The natural tendency is to overestimate what a well will do and the only sure way to find out is to turn it loose and find out."

Secretary Work: "Mr. Stewart, what information have you on shut-ins in the Rocky Mountain area?"

Mr. Stewart: "This is entirely problematical but in the Salt Creek Field alone it is estimated at 150,000 barrels."

Secretary Work: "I presume this serves the purpose of the conference and that you have reported so far as you are able."

Mr. Teagle: "Yes, Mr. Secretary, but if you have any suggestions to offer we will be more than delighted to hear them."

Secretary Work: "Owing to the meagerness of your report, and until after a report of the meeting in New York, it does not seem possible to make any suggestions. We seem to be at a standstill at this time. If there is nothing further, the conference is adjourned."

PHILLIPS PETROLEUM CO. BUYS OKLAHOMA NATURAL GAS CORP.

The Phillips Petroleum Company of Bartlesville, Okla., has acquired the controlling interest in the Oklahoma Natural Gas Corporation which has headquarters at Tulsa. The control was made possible through the purchase of the majority of stock. While no statement was made regarding price, it is reported that the Phillips company paid $25 per share for the common stock purchased, and $105 for the preferred stock. The Oklahoma Natural Gas Corporation was reorganized last year through efforts of Pope Richardson & Company, and its capital structure is composed of 21,000 shares of 7 per cent preferred stock with a par value of $100 per share, and 260,000 shares of no par common stock. It has an issue of 15,000 serial 6 per cent bonds with a par value of $100 each, due in 1946, and 6,000 convertible 6½ per cent debenture bonds, par value of $100 due in 1941. There are 240,000 shares of common stock reserved for the conversion of the smaller issue of bonds, each $1,000 worth of bonds being convertible for 40 shares of the common stock. Recent sales of Oklahoma Natural common stock have been made from $22 to $23.50 per share.

The Oklahoma Natural is one of the largest distributors of natural gas in the Southwest, and while no further statements have been made by the new owners, it is rumored this transaction is the first of a series of purchases which the Phillips company contemplates in order to permit its natural gas department to expand and have a greater outlet for gas which is being produced principally in the Texas Panhandle Field. Officials of the Phillips company have been in New York meeting with banking interests which represent other prominent gas distributors in the Southwest.

The Phillips-Oklahoma Natural transaction affords an ample outlet for the surplus gas production of the purchaser, and at the same time assures the distributing concern of a steady supply.

Immediately after the announcement of the transaction came the report that Phillips Petroleum Company offered for sale in New York, a bond issue of $40,000,000, 5½ per cent nonconvertible bonds with $100 par value. The entire issue was taken by Harris Forbes & Company, and will be offered to the public in a few days. The bonds are callable at 103 on 60 days' notice.

Simultaneously with the announcement of the purchase came the statement that 200 miles of 22-inch pipe would be laid to connect the present Oklahoma Natural system with the Texas Panhandle Field. Work on this line will be started during the summer according to the statement, and it is estimated that the construction of the line will require the expenditure of $9,000,000

No change in the management of the gas company will be made, except the occupancy by Frank Phillips, president of Phillips Petroleum Company, who will serve as chairman of the board of directors, which is a newly-created position, and the addition of all Phillips Petroleum Company directors to the directorate of the gas company. R. C. Sharp will continue as president and general manager, and L. C. Ritts as vice president and treasurer.

Another Panhandle Line

The Union Trust Company of Pittsburgh, Pa., is offering at 98¾ and interest, to yield over 5.10 per cent, $15,000,000 Lone Star Gas Corporation 15-year 5 per cent sinking fund debentures. The bonds are subject to redemption on any interest date at 102½ and interest. A sinking fund of $700,000 per annum commencing March 1, 1929, will be used to purchase bonds.

L. B. Denning, president, states that the Lone Star Gas Corporation is the largest natural gas marketing and transporting company in Texas. It owns 1,700

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Gasoline Manufacturers in Convention

Hear Papers on Practical Phases of Plant Construction and Operation and Discussion of Economic Problems

By C. O. Willson and W. T. Ziegenhain

Three days spent in the presentation of papers dealing with the practical phases of plant construction and operation and discussions of problems connected with the economies of the industry, including plans for a greater utilization of its products, summarizes the three-day program of the Sixth Annual Convention of the Association of Natural Gasoline Manufacturers, which was brought to a close Thursday afternoon at Tulsa. Interspersed throughout the three days were

GEORGE L. RATCLIFFE
Named Vice President

entertainment features provided by a group of supply and manufacturing companies serving the natural gasoline industry. The entertainment was conceded to have been the best of all the annual meetings held by the association.

Relieving those who have carried the burden of the work during the past two years, new officers were elected on Wednesday to head the association's activities during the coming year. H. A. Trower, sales manager of the Phillips Petroleum Co., Bartlesville, Okla., was elected president. Vice presidents elected were S. C. Carney of the Roxana Petroleum Corp., Tulsa; Dr. E. R. Lederer, vice president of the Texas Pacific Coal & Oil Co., Fort Worth, Tex., and George L. Ratcliffe, manager of the gas department of the General Petroleum Corp., Los Angeles. The following companies will have representatives on the board of directors: Lone Star Gas Co., Barnsdall Oil Co., Chestnut & Smith Corp., Empire Gasoline Co., Marland Refining Co., Oil State Gasoline Co., Prairie Oil & Gas Co., Sun Oil Co., Transcontinental Oil Co., Shaffer Oil & Refining Co., L. H. Wentz Co. and the Oklahoma Gasoline Plants, Inc. These companies later will designate their representative on the board.

Tribute to Peck

At the banquet Wednesday night E. L. Peck, manager of the gasoline department of the Empire Gasoline Co., Bartlesville, Okla., retiring president, was presented with a gold watch by the membership as a token of appreciation for his work as head of the association's activities during the past two years. The presentation was made by S. C. Carney.

At the banquet members of the California delegation who traveled the greatest distance to attend the convention were presented by Glenn Condon, director of public relations of the Skelly Oil Co., who presided as toastmaster. George L. Ratcliffe, a new vice president of the association, responded for the California operators. The main speaker at the banquet was Josh Lee, head of the public speaking department of the University of Oklahoma, who in a humorous vein spoke on the subject "The Pot of Gold at the Foot of the Rainbow."

Of the several reports made of the association's work during the past year, that centering around the accomplishments of the research and educational program was of greatest interest. All of Thursday was given over to a discussion of progress made in this program which is headed by Dr. G. G. Brown, professor of chemical engineering at the University of Michigan. Doctor Brown explained the status of the research work looking to the greater utilization of natural gasoline as a motor fuel and conducted engine tests showing the practical value of the work.

A. V. Bourque on Tuesday made a report on "The Research and Educational Program." Dr. E. H. Leslie, also of the University of Michigan, has been associated with Doctor Brown in directing the research work. In addition the association gives a substantial sum to the university for research which is carried on through fellowships.

Portable Plants

One of the liveliest discussions of the convention followed the presentation of S. S. Smith's paper Wednesday morning. The paper, which will be found elsewhere in this issue, dealt with the advantages of the unit plan of natural gasoline plant construction based on his company's (Roxana Petroleum Corp.) experience. In this method of construction Mr. Smith under certain conditions advocated the use of portable or semi-portable equipment to expedite plant installations and also add to the salvability of the plant should it later be necessary to move to another location.

The portability phase of his paper precipitated the discussion relative to the merits of the portable plant. The latter has always been a source of argument among operators since they were introduced to the industry about a year ago. The Wednesday morning discussion revealed the fact that this disagreement still exists. F. E. Rice, Emby Kaye, and E. L. Peck, heads of the gasoline departments of the Phillips, Skelly and Empire companies, were among those who condemned the use of so-called portable plants in the hands of small concerns, which they said get into the gasoline business due to a misconception of its hazards and profits.

A majority of those who discussed the matter apparently were in agreement that a company could not build up a permanent organization in the natural gasoline business with portable plants. It was said that in many instances oil-producing companies, which previously had sold their gas to other companies engaged in natural gasoline manufacture, had been led to believe they could obtain large profits by buying small plants and operating them themselves. This practice it was felt had usually resulted in losses to the producing companies entering the business and at the same time had worked an unnecessary hardship on the companies which are permanently engaged in gasoline manufacture.

However, the trend of manufacturers to fabricate their equipment so that it can be assembled easily in the field with the maximum portability was approved. This development has greatly facilitated construction work in the field. It was pointed out in the discussion that manufacturers have been able to improve their portable plants from their 2,000-gallon capacity units of two years ago so that now units with 6,000 to 7,500 gallons are available. This increased capacity has increased the practical value of the plants.

Some records in the installation of portable and permanent equipment were aired by several speakers. It was apparent that speed in installing new plants is dependent on conditions which vary greatly with different fields and companies. E. L. Peck ended this phase of the discussion after one operator told of having an 18,000-gallon plant in operation in 30 days by stating that he "could beat that as he had a plant in one mud hole in the Seminole Field for that long a period."

Mr. Smith, in concluding the discussion, expressed the opinion that opera-

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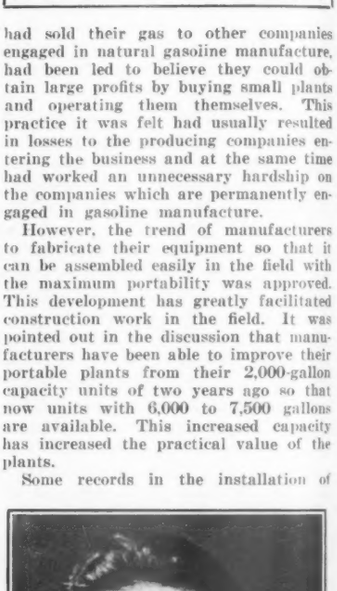
CONVENTION PAPERS

The papers at the convention of the Association of Natural Gasoline Manufacturers will be found in this issue of The Oil and Gas Journal as follows:

By F. B. Good page 100
By O. S. Wyatt, F. R. Staley and E. R. Lederer page 103
By President E. L. Peck page 136
By S. S. Smith page 170
By Paul D. Barton page 173
By A. V. Bourque page 181

HEADS NATURAL GASOLINE MANUFACTURERS

H. A. Trower, elected president of the Association of Natural Gasoline Manufacturers at their Sixth Annual Convention, has charge of sales for the largest manufacturer of natural gasoline—Phillips Petroleum Co. of Bartlesville—of the entire petroleum industry. Mr. Trower took charge of the company's sales several years ago when it was one of the smaller manufacturers. During the past year he has been active in the research and educational program of the association.



DR. E. R. LEDERER
Chosen Vice President

Excess Production 150,000 Bbls. Daily

Less Petroleum in Storage April 1 Than Year Before With Consumption Greater. Big Storage Program Being Discussed

By Andrew M. Rowley

Crude oil production in the United States has been averaging approximately 150,000 bbls. daily more than requirements. That quantity is in addition to slightly more than 200,000 bbls. daily which operators in different sections of the country have been able to shut in. This condition, probably, will continue for another month or so, at the end of which time the industry may be able to see conditions shaping themselves in such a way that the gap between supply and demand will be narrowing with the possibility demand will overtake production and imports before the end of the summer.

The table accompanying this article shows that on the first of April there was less crude oil in storage in this country than was the case a year before; there was a less quantity of total liquid stocks (crude and refined oils) than on April 1, 1926, and consumption this year was greater. In other words, on April 1 of this year the industry had 13,000,000 bbls. less crude oil in storage than it did on April 1, 1926, and consumption during March of this year was 7,000,000 bbls. greater than during March of last year. Total stocks of crude and refined oils in the United States on April 1 of this year were 1,100,000 bbls. less than on April 1, 1926.

Present Big Production

The difference in the situation now and one year ago is the big production being maintained at this time and the probability this production will be held at high levels during most of this summer. It is the outlook, from the production standpoint, and not the present statistical position as far as stocks and consumption are concerned, which is causing the present trouble in the industry.

Total gasoline consumption thus far this year has averaged about 10 per cent greater than last year. Domestic consumption showed a greater gain than this but a falling off in exports reduced the percentage as a whole. However, the industry has good reason to believe consumption during the remainder of the year will show a greater rate of gain than during the first four months.

If the industry is successful in its efforts to curtail production or, if some plan is evolved to store excess production until there is a demand for it, an improvement in the general situation could be expected fairly quickly. For, as pointed out above, it is not the crude oil now in storage which is causing the trouble, for a year ago everyone was talking about the prosperous outlook and yet, at that time, there was more crude in storage than on the first of April of this year.

The big need is to care for the present big production and to limit the output as much as possible or to arrange to care for this output until it is needed. In this connection, it is interesting to note what effect an extensive storage program would have had on the general situation had such a program been inaugurated in the Seminole Field in Oklahoma when that field was discovered.

Seminole and Storage

Up to May 14, production of the Seminole area totaled 48,484,000 bbls. Had all of this crude been placed in steel storage, the cost of such storage, with interest on the investment, etc., would have been not over $24,000,000. Seminole crude commanded a price of $2.61 a barrel when the field was opened. The price of that crude now (Prairie Oil & Gas Co. posted price) is $1.36. Seminole operators have received about $68,664,749.80 for the oil produced there and sold to date. Figuring the value of Seminole crude in storage—6,060,575 bbls.—at the price of $1.36, would add $8,976,000 to the value of production of that field, making a total value of oil sold and in storage of $77,640,000.

Had steel storage been erected in Seminole to care for all the production there and all Seminole crude placed in storage and not forced on the market, the crude oil price structure might have been held at the price then prevailing when the field was opened, or $2.61 a barrel. In fact the price trend at that time seemed upward. Seminole production at $2.61 a barrel would have been worth $126,543,240. The difference between that figure and the $77,640,000 which operators procured from the production and the value of the oil now in storage is $48,903,000.

If steel storage for all the production had cost $24,000,000, it is easy to see operators would still have made a profit of more than $24,000,000 above the cost

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PETROLEUM PRODUCTION, CONSUMPTION AND STOCKS

(Figures from United States Bureau of Mines. Figures in thousands of barrels.)

	Crude Prod.	Prod. Plus Imports	Consump. Plus Exports	Total Liquid Stocks	Total Crude Stocks	Consumption
1922—						
January	43,696	56,803	47,420	295,587	213,167	47,420
February	41,314	53,391	42,836	309,940	223,722	42,836
March	47,188	61,192	44,760	326,169	240,154	44,760
November	48,027	55,456	53,860	374,684	288,856	53,869
December	50,642	57,808	56,018	380,288	291,630	56,018
1923—						
January	52,527	59,834	58,433	384,478	293,031	58,433
February	48,588	57,787	53,757	389,356	294,061	53,757
March	56,969	65,027	57,672	400,348	301,416	57,672
November	65,388	71,473	62,828	486,027	372,529	62,828
December	59,546	67,963	65,980	491,912	374,512	65,980
1924—						
January	57,273	63,576	62,673	495,504	375,415	62,763
February	55,889	62,400	59,041	504,235	378,774	59,041
March	60,141	68,772	65,325	512,859	382,221	65,325
November	56,782	63,431	66,011	526,945	406,449	66,011
December	57,433	63,274	69,931	522,376	417,619	69,931
1925—						
January	60,400	67,425	65,680	525,427	419,364	65,680
February	54,775	60,354	61,301	531,573	420,311	61,301
March	61,339	67,714	67,389	537,555	420,636	67,389
November	61,927	66,818	66,884	554,855	433,468	66,884
December	61,547	65,788	65,662	541,692	421,243	65,662
1926—						
January	59,672	65,611	67,151	542,995	422,211	74,784
February	54,566	60,310	60,731	542,574	419,679	60,881
March	60,671	69,410	67,341	544,643	420,216	68,110
November	69,483	76,145	75,009	516,028	394,590	75,357
December	72,061	78,367	74,942	519,453	396,208	75,238
1927—						
January	71,475	75,989	74,237	527,144	397,960	74,237
February	67,874	72,055	67,147	535,499	402,868	67,147
March	75,304	79,738	75,258	543,570	407,348	75,258

Curtailment Urged in Flush Fields

Oil Company Official Favors Unit System of Operation and Appointment of Arbiter Connected With Institute

By George A. Dye

Vice President, H. F. Wilcox Oil & Gas Co.

It is pleasing to note from various articles appearing in The Oil and Gas Journal and other publications that the brains of the oil industry are at last giving serious thought to the existing overproduction, and it is to be hoped that some feasible plan will be worked out that will not alone benefit the present condition, but will eliminate recurrence. In order to bring about a remedy it will require the complete co-operation of all. Heretofore, there have been entirely too many of us who wanted to let the other fellow "co" while we "operated."

The foremost issue before the industry at this time is to find a remedy for the present overproduction, and this can only be brought about by strict curtailment of operations in the flush pools, if not in the country as a whole. Of secondary importance is the opportunity which now exists for the laying of a foundation to prevent recurrence of this condition. This, I believe, can be accomplished by the appointment of an arbiter in whom authority will be vested to indicate the policy of operations of the entire oil industry. By this, I mean that when, in the opinion of the party in whom this authority is vested, there is danger of overproduction he shall have authority to instruct all companies to reduce their operations a certain per cent. I don't think there is a company operating in the Mid-Continent Field or the country at large who could not at any time shut down 25 or 33⅓ per cent of its drilling wells without ill results.

Less Drilling Now

Some sixty days ago there were approximately 4,100 wells being drilled throughout the country, but due to the reduction in crude prices this number has been decreased to approximately 3,600 operations, which is a very creditable showing, but it is to be regretted that so sharp a reduction in crude prices was necessary to bring about this reduction in operations. Whenever there are more than 3,000 wells drilling throughout the country there is always danger of overproduction, this, of course, based on present-day consumption.

It is my opinion that the unit system of operation can be worked out successfully. I notice that Mr. Farish of the Humble Oil Company, Mr. Lovejoy of the Amerada, and others have referred to the purchase of undivided interests in acreage around wildcat wells rather than the present method of buying spreads. I strongly advocate this as a preventive measure against unnecessary drilling in times like the present. If all companies purchasing acreage around wildcat wells would confine their efforts to the purchase of undivided interests in the entire block, rather than spreads of acreage, it would not alone eliminate the drilling of a lot of unnecessary wells, in event production was encountered, but it would also reduce the operating expense of the block as a whole and would mean a great saving to the interested parties from every angle. A committee of the interest holders could very easily be formed to determine which company would operate the property, and the basis upon which the operations were to be carried on.

I believe we could "go one better" in this procedure, even at this time, in the Seminole area. There are now quite a number of wells drilling in that general vicinity on tracts of 80 to 160 acres. If all the companies who own acreage around such wells would pool their interests, at least to the extent of 640 acres, placing the operation of the entire 640 acres in the hands of one company, each interest owner taking care of his pro rata part of the expense of drilling such wells in ratio to the number of acres he holds in the given section, a number of wells could be eliminated when production is secured, as it would only necessitate the drilling of offsets, or such wells as are necessary to protect the leases in the section. The entire section being operated by one company would naturally reduce operating costs tremendously.

Big Reduction in Expenses

There are many sections of the Seminole area which are covered by six or eight leases owned by as many different companies, which, if proven productive,

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Natural Gasoline Advance Continues

Believe Peak Reached After Additional Advance of One-Half to 1 Cent on All Grades. Other Products Firm

By C. O. Willson

The past week in the Oklahoma (Group 3) refined market was uneventful as to price changes with the exception of natural gasolines which continued an upward movement which started early in the month. The A grades advanced one-half cent with an advance of 1 cent on the B and C grades. The strength in this product was due to the continued buying for shipment to the Gulf Coast. This buying has been heavy for the past month. Part of these shipments are going to the coastal refineries of the Gulf Refining Co., Humble Oil & Refining Co., Sinclair Refining Co., New Orleans Refining Co., and other companies with refineries in that area. The remaining shipments are for Atlantic Seaboard refiners and export buyers.

Two Tulsa concerns have been especially active in making purchases for these coastal buyers. There was some indication on Tuesday that there was to be at least a temporary let-up in this buying. Purchases already placed were said to cover the buyers' requirements for the immediate future. It was also apparent that there was considerable opposition on the part of buyers to the price advances. Should this coastal or "export buying" (as it is called by the trade) cease, the market would then be dependent on domestic movement which has not been especially active.

Complaint is heard from refiners regarding the present natural gasoline prices. These complaints are always voiced when the natural gasoline quotations reach a point in relation to refinery gasoline prices where some refiners cannot profitably use the natural product as blending material.

The situation is particularly aggravated at this time by the lack of demand for the higher gravity refinery gasolines. When there is an active export demand for the higher gravity gasolines refiners can often pay relatively high prices for the natural gasolines.

With 60-62 400 endpoint gasoline only one-fourth cent above 58-60 437 (U. S. Motor) and 64-66 375 a one-half cent greater, this situation does not obtain at present. This has led to the prediction that the natural gasoline manufacturers will not be able to maintain present prices unless there is greater activity and substantially higher prices in refinery gasolines.

REFINED MARKET BAROMETER

Tank car prices on refinery gasolines were generally firm throughout the United States during the past week. Scattered reductions in the gasoline tank wagon and service station continue to materialize, due largely to local conditions, but the tank car prices during the past week were not affected by these changes. Quite a number of refiners, both in the eastern and Mid-Continent areas advanced their prices on the domestic gasoline grades, and this development is reflected in slightly higher average prices in those areas. Weather conditions were not generally favorable for gasoline consumption, according to reports from several sections east of the Rocky Mountains. Fuel oil and gas oil prices continued generally firm, with predictions made that prices will continue at these or higher levels unless there are further reductions in crude prices. The demand for kerosene and distillates was not active, but there were no important changes in tank car prices. Natural gasolines east of the West Coast continued to advance rapidly over the greater part of the week. A better industrial demand was the outstanding development in the lubricant situation. Wax was reported steady in the eastern market, with the western market continuing weak.

Mid-Continent—Natural gasolines again advanced one-half to 1 cent in all areas. Domestic market in refinery gasolines either steady or advancing. North Louisiana refiners adopt 56-58 gravity as standard, instead of 58-60, with no change in price. Higher gravities in North Texas lower, due to falling off in export market. Kerosene and distillate demand slow, but prices firm. Fuel oil and gas oil unchanged.

Atlantic Seaboard—Gasoline tank car prices higher. Kerosene and furnace oils firm. No change in bunker oil and gas oil. Lubricants steady. Better demand for wax.

Chicago—Gasoline prices firm despite the fact that there has been little activity in spot market since Standard of Indiana tank wagon reduction May 10. Considerable resale gasoline available from marketers. Fair demand for kerosene. Fuel oil inactive, prices unchanged.

Pennsylvania—No important changes in prices. Gasoline movement improved. Neutrals strong. Cylinder stocks sluggish. No change in bright stocks.

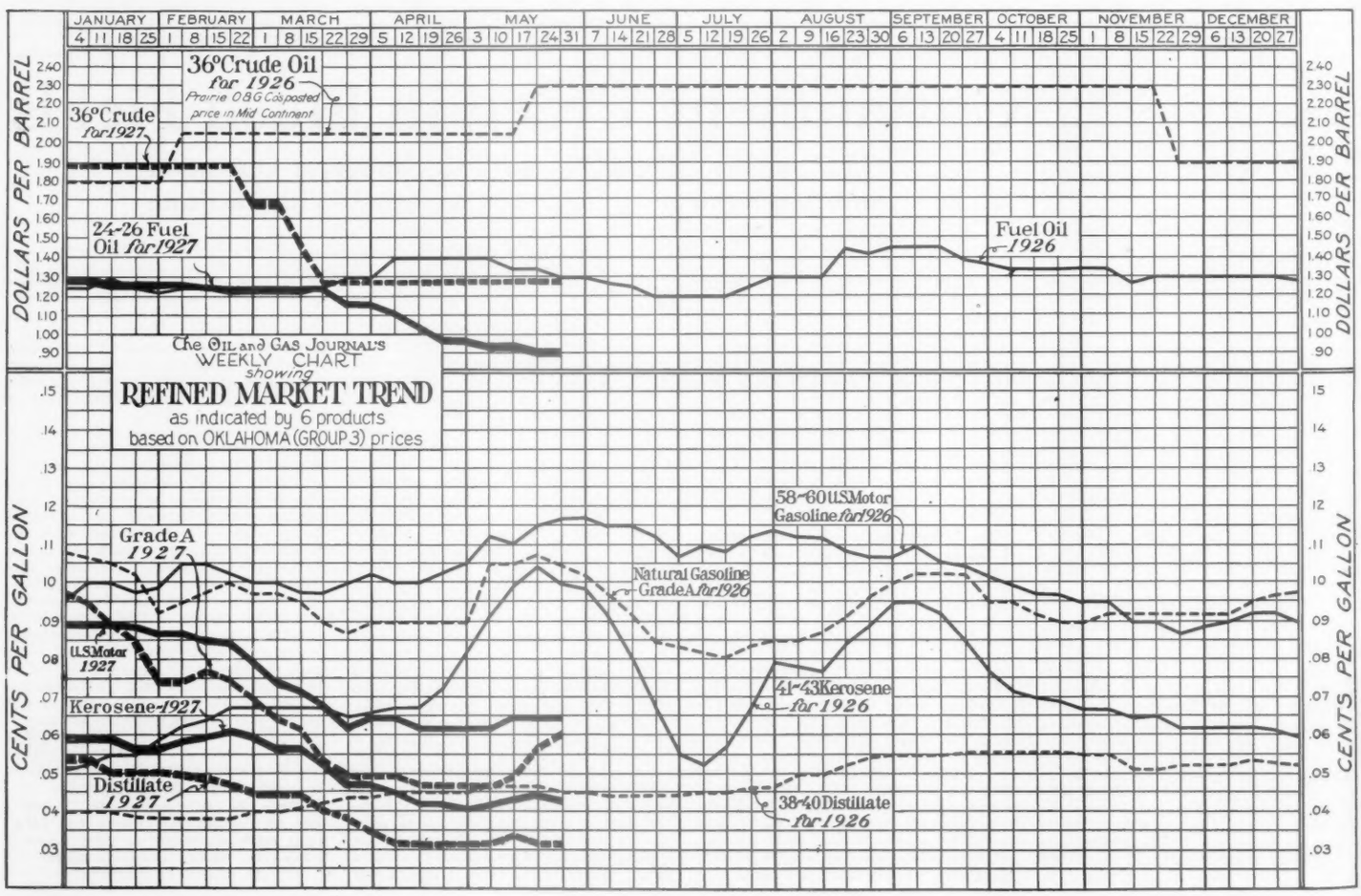
California—Gasoline prices firm despite uneasiness regarding the future trend. Other products unchanged.

Refinery Gasolines

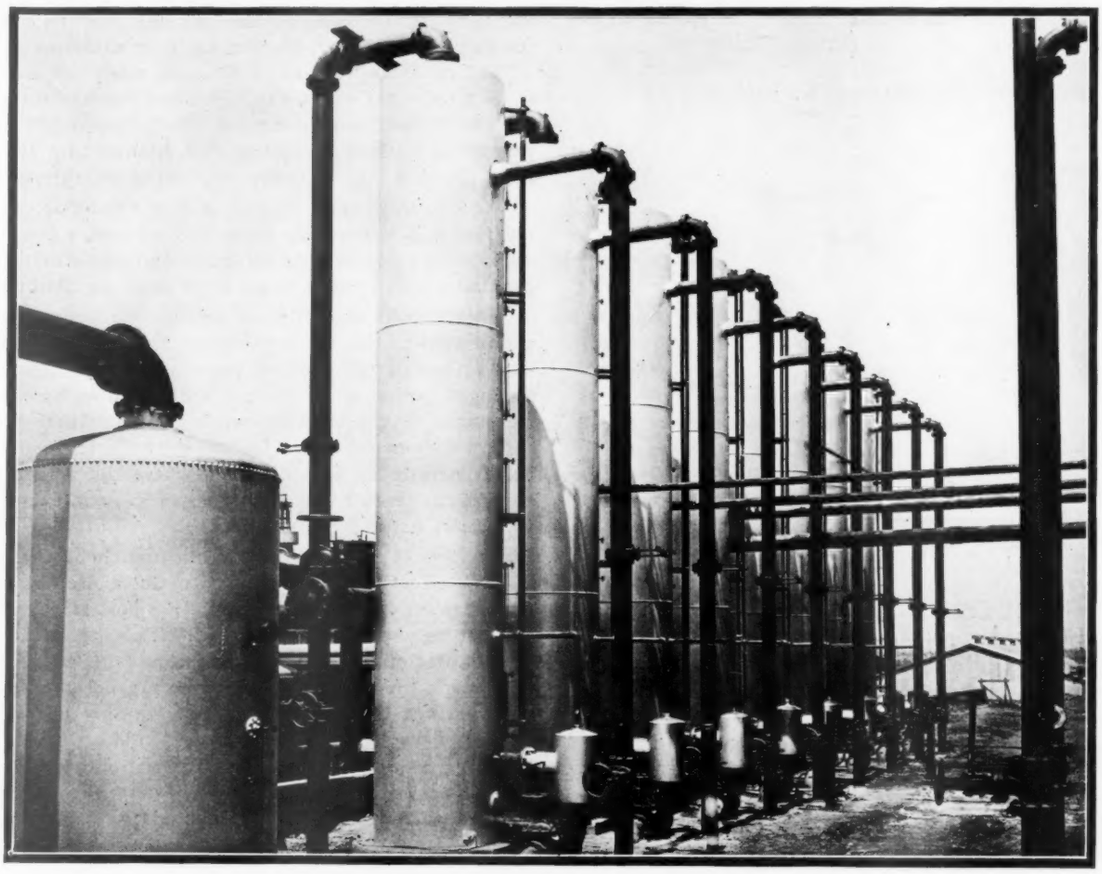
Turning to the market on refinery gasolines conditions are practically the same as last week. Without any special buying activity refiners in Oklahoma have been able to at least maintain their prices of a week ago. Several refiners advanced their quotation on 58-60 437 U. S. Motor gasoline to a low of 6¾ cents with at least two refiners quoting 7 cents. At the same time other refiners were content with a 6½-cent price. Several refiners also advanced their prices on the higher gravities one-fourth cent along with the U. S. Motor grade.

Interviews with several representative refinery executives during the past week found an almost unanimous agreement among them relative to the future trend in the Mid-Continent gasoline market. None was expecting any large advance in prices during the summer months but all thought there should be a gradual change upward. It was the consensus of opinion that any attempt to bring about a rapid price recovery would end in disaster. Such an action would mean that competitive refinery groups would be able to step in and get business in areas which are the normal market outlet of the Mid-

(Continued on Page 185)


JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER
DOLLARS PER BARREL
36°Crude Oil for 1926
Prairie O&G Co posted price in Mid Continent
36°Crude for 1927
24-26 Fuel Oil for 1927
Fuel Oil 1926
The Oil and Gas Journal's WEEKLY CHART showing
REFINED MARKET TREND
as indicated by 6 products based on OKLAHOMA (GROUP 3) prices
CENTS PER GALLON
Grade A 1927
U.S.Motor 1927
Kerosene-1927
Distillate 1927
58-60 U.S.Motor Gasoline for 1926
Natural Gasoline Grade A for 1926
41-43 Kerosene for 1926
38-40 Distillate for 1926

At the Sinclair Gasoline Plant, Seminole—



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paves the way for: *smaller investment, greater efficiency and greater profits . . . . . .*

Check up on this! The refiner or natural gasoline manufacturer *who sees into the future* is installing or considering NEWTON Absorption PLANT EQUIPMENT at the *present* time. And this is why: Every company that is interested in maintaining or strengthening its position for the "fat" seasons, fortifies itself during the "lean" season by equipping economically and efficiently for increased production.

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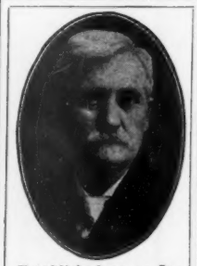
FULLERTON, CALIFORNIA

The Oil and Gas Journal

PRODUCING REFINING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.



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(By Mail, Postage Prepaid)

Single copies	$ .15	One year (in United States)	$6.00
Three months	$2.00	One year (in Canada)	$7.00
Six months	$3.00	One year (foreign countries)	$7.00

ADVERTISING RATES ON APPLICATION
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CONSERVATION AND CO-OPERATION

The sixth annual convention of the Association of Natural Gasoline Manufacturers held in Tulsa this week directs attention anew to the remarkable progress of that branch of the petroleum industry which is so strikingly set forth in The Oil and Gas Journal's fourth Annual Review of the natural gasoline division in this issue.

Fifteen years ago natural gasoline was a negligible factor in our motor supply, in fact had not so long before been regarded as practically a waste product to be disposed of rather than utilized.

But in 1917, only ten years ago, it was furnishing 8 per cent of our motor fuel. And today it is supplying over 11 per cent and in no small degree that efficiency in conservation is a factor in the present petroleum situation.

Just before the war, in 1913, the total estimated consumption of natural gasoline was only 24,000,000 gallons. This year it is figured it will exceed 1,625,000,000 gallons, or 65 times as much.

The growth in capacity of natural gasoline plants in the year ending May, 1927, is shown by The Oil and Gas Journal Survey to have been 35 per cent. That capacity has more than doubled in the past three years.

Yet there has been a relatively small increase in number of plants, there having been 1,012 in 1924 and 1,148 now. The increase in capacity has come from larger plants.

The output of natural gasoline this year will be approximately 50 per cent of the total gasoline consumption as late as 1918.

The figures for March, the latest available, moreover, do not reflect the output in the Seminole Pool of Oklahoma which is not only one of the greatest oil producing areas in history but is also producing 350,000 gallons a day of natural gasoline and gives every indication of being one of the largest natural gasoline fields ever found in the United States.

Only a few years ago the opening of a field like Seminole would have been marked by what was then regarded as the unavoidable waste of millions of feet of gas in the early operations. Natural gasoline manufacturers would not have got into the field for perhaps a year or two or until the field had approached the stage of settled production.

Nowadays the natural gasoline manufacturer is on the spot as soon as the first producing well is completed and there is relatively little waste of gas.

In the newest development of oil production, the gas lift, the natural gasoline manufacturer has adjusted his operations to meet the demand of the production engineer who uses gas for lifting the oil and to return the gas to the lease ready for another cycle.

Not only has the natural gasoline manufacturer contributed to the efficiency of the refiner and the producer but he has attained a perfection of manufacturing that enables him to extract gasoline from gas that was formerly considered worthless for that purpose.

He has thus been an outstanding exemplar of conservation in two ways, in preventing what was otherwise considered inevitable waste of the gas in oil production and in extracting gasoline from gas that yielded only a small fraction of a gallon per thousand feet.

This record is the more remarkable because it has been accomplished in the conservation of a raw material over the production of which the natural gas manufacturer has no control, and during a period when the price of gasoline has been unfavorable. Nevertheless, the effective work of the natural gasoline manufacturer has been a notable factor in Seminole, in the Panhandle and in the new fields of California, where the natural gasoline plants have taken care of vast quantities of gas and extracted an immense volume of natural gasoline from it.

In fact, it is probable that no branch of the oil industry has felt the effects of the present situation more heavily than the natural gasoline industry but it was in a position through lack of control of the raw material where it felt obliged to carry on in the interests of conservation, and was confident the clouds would clear.

That is the saving factor in the present condition of the entire oil industry. The general situation is unprecedented but the fundamental position of the industry is sound.

The great fact is that we have an industry demand for whose products is constantly growing and certain to continue to grow indefinitely. Any industry or business with that background is assured of its future if it has ordinary business ability to take advantage of its opportunities.

There is no doubt that the oil industry has that ability if it is permitted to exercise it and all the indications are that the doubts and hesitations which have obscured its path are being removed by the conferences at Washington and New York.

What has been accomplished by the steel industry under the leadership of Judge Gary has been cited. In this connection his remarks at the most recent meeting of the American Iron and Steel Institute are particularly pertinent to the present situation in the oil industry.

Competition, he said, is a burning subject today, adding:

"I do think competition sometimes has been carried too far. In the long run manufacturers would get more business at fairer prices if they acted more unselfishly."

Can any oil man doubt it, as he surveys the results of reckless competition in his own business?

Steel men, before Judge Gary's era of co-operation, were as firmly convinced as any oil man today that it would be impossible to get steel men together, that competition must run its course, and that the operations of supply and demand would result in the survival of the fittest.

It need only be recalled that under pursuit of that policy in the steel trade U. S. Steel was selling around 10.

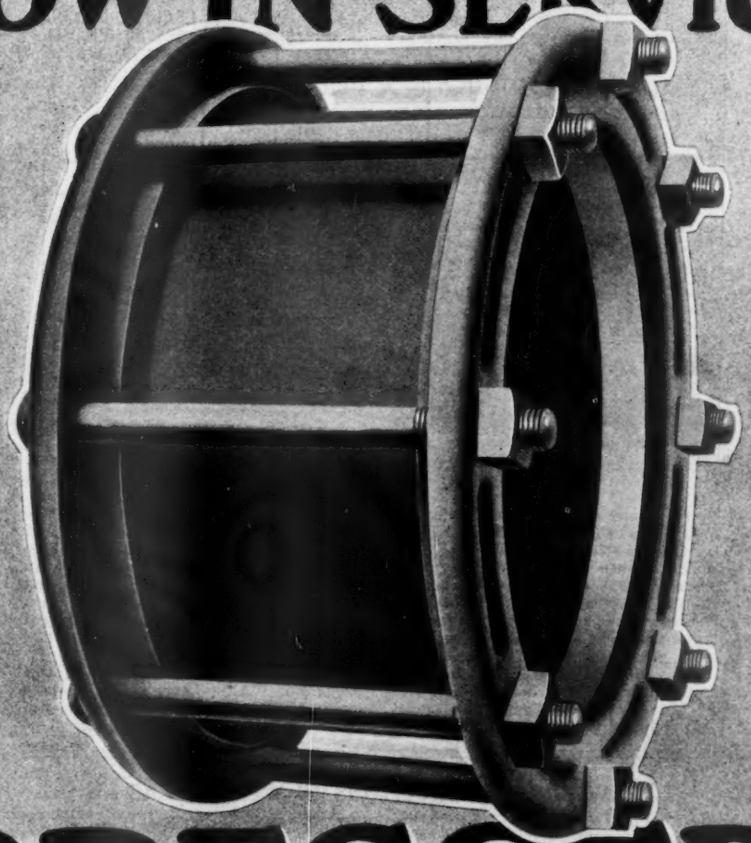
Wiser counsels have since prevailed. Conference and co-operation have solved most of the once considered insuperable problems of the competition in the steel industry which has learned through costly experience that "more business at fairer prices" can be obtained by "acting more unselfishly."

The oil industry has the same problems today and the opportunity to try the same remedy.

And, as Judge Gary said to the Iron and Steel Institute: "Never before has there been a time when governmental administration was honestly, sincerely and actually so much interested in the prosperity of the people of the country."

The conferences at Washington should have proved that to the oil industry.

Around
20 MILLION NOW IN SERVICE



DRESSER COUPLINGS

DOMINATE

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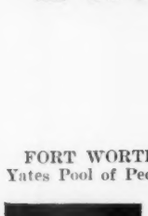
Yates Pool Makes 16,970 Pinched In

Pecos County Field Center of Interest. South Bend Pool, Young County, Brings in Second Large Producer

By C. D. Lockwood
Staff Correspondent, North and West Texas



FORT WORTH, Tex., May 23.—The Yates Pool of Pecos County monopolized most of the spotlight in West Texas this week as developments in Winkler County's Hendricks Pool and around the Llano Oil Co.'s wildcat were hanging fire. Marland Oil Co. cut Howard County crude from $1.16 to $1.05 per barrel, flat price covering all gravities, but this was the only change in posted prices and affects very little oil. No new developments of importance occurred in the Church-Fields Pool of Crane County, although the line fight in the south end of the pool, half way between Church-Fields and Gulf-McElroy, has boosted the number of operations to 61. Of these, 3 are locations, 20 rigs, 21 wells drilling above 2,000 feet, 9 wells drilling below 2,000 feet and 8 uncompleted oil wells. The only completion in this pool was a 200-bbl. well, Simms & Atlantic's No. 5 University-A, two locations north of the big No. 2 producer in Section 46.

In the North Texas district, Young County's South Bend Pool contributed another big well, the second largest producer south of the river, good for 90 bbls. an hour, and the Moody Oil Corp.'s wildcat in northwestern Eastland County increased to 48 bbls. an hour as a result of slightly deeper drilling. Jack County also came in for some notice because of a semiwildcat near the old Roxana Petroleum Corp.'s No. 1 Williams showing the possibility of production.

New West Texas High

North Central Texas production remained practically stationary this week, having increased only 855 bbls. to 169,970 bbls. West Texas, however, gained 8,360 bbls. and registered a new high of 119,600 due almost entirely to Pecos County.

With an average of 16,970 bbls. daily for the week, the Yates Pool passed into the major pool class in spite of the fact all of its wells are partially pinched in, only two of the six producers having as much of an outlet as two 2-inch lines. The rest have to be content with forcing their output through one-quarter and one-half inch chokes or one 2-inch line. Sunday, the six wells totaled 18,388 bbls. under these conditions and the Illinois Pipe Line Co. ran a little more than 11,000 bbls. through its 6-inch line to McCamey. Following are the gauges on the individual wells for three separate days:

Well No.	Choke	Production May 19	May 20	May 22
1-A	½-in.	.....	.....	.....
3-A	¼-in.	1,876	1,806	1,779
2-A	¼-in.	746	732	737
4-A	2 2-in. lines	2,006	1,996	1,9 5
1-B	1 2-in. line	*7,327	6,315	9,610
1-C	2 2-in. lines	3,893	4,231	4,297
Totals	.....	15,848	15,080	18,388

*May 19 No. 1-B produced for six hours through two 2-inch lines, then was cut down to one 2-inch line for the remaining 18 hours.

Important Yates Pool Well

The most important well drilling in the vicinity of the pool is Mid-Kansas and Transcontinental's No. 1 Smith-Taylor, some three-quarters of a mile northwest of the discovery. Monday morning it started up again at 1,168 feet after a shutdown for Sunday. It topped the lime at 710 feet or 1,935 feet above sea level, which makes it 23 feet higher, structurally, than No. 2-A, formerly the highest well in the field. It has 1,000,000 feet of gas.

Location has been made and a machine is rigging up for No. 2 Yates-B, 1,320 feet north and east of SW cor. Section 61, Block 1. Also location has been made for No. 5 Yates-A, east offset to No. 1 Smith-Taylor, 828 feet from the north line of Section 34½, and for No. 6 Yates A, west offset to No. 1 Yates-C. The best production of No. 1-C was 4,417 bbls., which is remarkable in view of the fact this well was drilled only 5 feet in the big pay found at 1,110 feet, although the first oil was encountered at 1,014 feet.

The Oil and Gas Journal map of ownerships around
LLANO OIL CO'S NO.1 SCARBOROUGH
WINKLER COUNTY
Shaded leases are joint holdings of Roxana Pet. Corp. and Llano Oil Co. as result of recent transaction
NEW MEXICO
T 26 S
R 37 E
R 38 E
C-22
74
77
C. D. Lockwood

Arkansas Fuel Oil Co.'s No. 1 M. Holmes, south of the pool, is to be plugged. As reported last week, it flowed sulphur water at 3,044 feet. George A. Henshaw's test southeast of the pool, between the Yates and Texon wells, is also to be plugged at 1,550 feet. It is lower structurally than any of the wells both north and south of it in Block 1.

Winkler County

In Winkler County, Llano Oil Co. and Roxana Petroleum Corp.'s No. 1 Scarborough has been deepened to 3,094 feet and is still in sand and shale with 750 feet of oil in the hole, corrected gravity being 35.2 degrees. A 500-bbl. tank is being erected in order to give it a swabbing test. On May 18 it bailed 50 bbls. and the fluid in the hole wasn't lowered.

There are now 19 tests drilling in the Hendricks Pool of Winkler County, of which 6 are rigs, 9 are drilling above 2,000 feet, 3 below 2,000 feet and 1 is an uncompleted oil well. This is Independent Oil & Gas Co.'s No. 1 Hendricks, west offset to the discovery, which was plugged back from 3,093 feet to 3,075 feet and swabs 50 to 60 bbls.

In Upton County, Prairie Oil & Gas Co.'s No. 1 Allie Lane, which extended production southeastward four or five weeks ago, averaged 441 bbls. daily, flowing, from April 15 to May 16, with no b.s. or water. Pay horizon is 1,980-2,030 feet. Dixie Oil Co.'s diagonal northwest offset, No. 25 Burleson, topped pay at 1,991 feet and made 2 small heads at 1,998 feet and was still drilling.

South Bend Pool

In the South Bend Pool of Young County, Roxana Petroleum Corp.'s No. 12 Ford, NW cor. of the lease, on the south bank of the Brazos, W. T. Carter Survey, A-62 flowed 90 bbls. an hour and 12,000,000 feet of gas initial from lime at 3,889-3,902 feet. Panhandle Refining Co.'s No. 20 McCluskey and No. 17 McCluskey together made 542 bbls., flowing, May 19.

Moody Oil Corp.'s No. 1 Dyer in Eastland County increased to 48 bbls. an hour at total depth of 3,885 feet. It topped the oil pay at 3,849 feet, but found the big production in the last few feet and is believed now to be in the McCleskey sand. It topped the black lime at 3,397 feet with surface elevation of 1,534 feet. The McClelland gasser just east of it stopped in the Eastland Lake sand at 3,682 feet with surface elevation of 1,540 feet and was shut in for gas. This well was drilled a couple of years ago. Transcontinental Oil Co.'s No. 1 Weddington, about a half mile west of No. 1 Dyer, has surface elevation of 1,496 feet and is fishing bailer at 2,820 feet. From comparisons of logs, it seems to be running even higher than No. 1 Dyer, which is in turn 60 feet higher than the McClelland.

NORTH CENTRAL TEXAS ESTIMATED PRODUCTION
Week Ending May 21, 1927.

Ranger District	May 21.	May 14.
Brown County	27,460	23,755
Callahan	4,540	4,295
Coleman County	1,215	1,230
Comanche County	1,635	1,630
Palo Pinto County	465	470
Ranger	10,500	10,200
Shackelford County	7,760	11,290
Stephens County	10,190	10,260
Total Ranger District	63,765	63,130
Wichita Falls District		
Archer County	29,240	29,410
[illegible] County	105	100
Clay County	7[illegible]5	750
Cooke County	2,900	2,610
Jack County	615	600
Montague County	12,780	12,670
Throckmorton County	2,470	2,505
Wichita County	32,340	32,310
Wilbarger County	13,455	13,570
Young County	11,535	11,460
Total Wichita Falls District	106,205	105,985
West Texas District		
Big Lake Field	26,950	26,970
Crane County	44,340	44,675
Crockett County	1,615	1,625
Ector County	20	16
Garza County	5	4
Glasscock County	35	33
Howard County	3,210	3,039
Jones County	1,980	2,225
Loving County	15	15
Mitchell County	4,135	4,030
Pecos County	16,970	7,862
Scurry County	20	23
Upton County	19,350	18,967
Winkler County	955	1,765
Total West Texas District	119,600	111,240
Grand Total North and West Texas	289,570	280,355
Increase		9,215

WILDCAT OPERATIONS IN WEST TEXAS

Week Ending May 21

ANDREWS COUNTY

Company, Farm and Location	Remarks—
Calvin & Belt's No. 1 Ratliff & Bedford, C NE Sec. 16, Blk A-84	Location.
J. S. Cosden's No. 1 Ratliff & Bedford, C SE Sec. 5, Blk. 73, Public School Land	Location.
Sartain Oil Co. et al's (was Deep Rock Oil Co.'s) No. 1 W. J. Harris, C SE Sec. 12, Blk. A-46, Public School Land	S.D., 100 ft.
C. B. McKennon's (was Neff et al's) No. 1 J. S. Means, C SE Sec. 12, Blk. A-35, Public School Land	Spudded 30 ft; and S.D.
A. G. Carter & Zweifel's No. 1 Cowden, C SE Sec. 18, Blk. A-52, Public School Land Sur.	Top salt, 1,375 ft; drlg., 2,210 ft.
Maer & Stanforth's No. 1 W. B. Taylor, C SE Sec. 15, Blk. A-42, Public School Land Sur.	Top salt, 1,350 ft; fish. for tools, 3,010 ft, red rock and anhydrite.

BORDEN COUNTY

J. L. Kennedy's No. 1 J. S. York SE cor. Sec. 332, Blk. 97, H. & T. C. Sur.	Drlg., 620 ft.
Stivers et al's No. 1 Snodgrass, C NW Sec. 475, Blk. 97, H & T. C. Sur	Drlg., 2,920 ft.

BREWSTER COUNTY

McPhail & Kemper's No. 1 McIntyre, SE cor. Sec. 31, Blk. 352, 7 mi. south of Alpine	Rigged up and S.D.

COKE COUNTY

Danciger O. & R. Co.'s No. 1 Mrs. B. Byrnes	Spudding 100 ft.
Lipan Oil Co.'s No. 1 S. M. Conner	S.D., 1,215 ft.

CONCHO COUNTY

Harry Adams et al's No. 1 Price, C SW Sec. 78, Blk. 71, Alex Gregg Sur.	Drlg., 975 ft.
Arkansas Fuel Co.'s No. 1 Hartgrove, SW cor. NW Sec. 49, Blk. 70, H. & T. C. Sur., 13 miles E of Paintrock	1,000,000 ft. gas 1,100-10 ft.; 4,500,000 ft. gas 1,142-47 ft.; small show oil in sandy lime 2,165 ft.; show oil 2,454-80 ft.; show oil and 200,000 ft. gas 2,494-2,512 ft.; bailed 8 bbls.; S.D., 3,012 ft.
The Exploration Co.'s No. 1 Hartgrove, Blk. 240, J. Schouch Sur.	S.D., 1,930 ft.

COTTLE COUNTY

Exploration Co.'s No. 1 Richards	Spudded.
Sun Oil Co.'s No. 1 Tom Burnett, C NW SE Sec. 6, Blk. L. S. P. R. R. Sur.	Drlg., 2,160 ft.

(Continued on Page 80)

CHURCH FIELDS DRILLING

Crane County

Church and others' No. 2 University, cellar; Church & Fields' No. 1 Duoll-University, top pay 2,860 feet, drilling 2,925 feet, 1,800 feet oil in hole; Church & Weekly's No. 2 University, drilling 2,610 feet; No. 3 University, building rig.

Carl Cromwell and others' No. 4 University, top salt 1,040 feet, drilling 1,230 feet; No. 5 University, drilling 2,440 feet; No. 6 University, drilling 1,075 feet, top salt 1,025 feet; No. 7 University, drilling 585 feet; No. 11 University, rigging up; No. 12 University, rig.

Eastland Oil and Collette's No. 3 University, building rig; No. 5 University, rigging up; No. 6 University, building rig; No. 7 University, drilling 475 feet.

Gulf Production Co.'s No. 11 J. T. McElroy, drilling 2,585 feet; No. 12 J. T.

McElroy, top salt 1,010 feet, drilling 2,135 feet; No. 13 J. T. McElroy, drilling 1,020 feet; No. 14 J. T. McElroy, drilling 640 feet; No. 15 J. T. McElroy, drilling 630 feet; No. 16 J. T. McElroy, drilling 215 feet; No. 8 State-Lassiter, drilling 440 feet; No. 9 State-Lassiter, fishing tools 635 feet; No. 10 State-Lassiter, drilling 1,050 feet.

Humble Oil & Refining Co.'s No. 9 University, drilling 1,830 feet; No. 10 University, rigging up.

Independent Oil & Gas Co.'s No. 2 University-A, top pay 2,850 feet, total depth 2,960 feet, sweding 6-inch casing, swabbing approximately 200 bbls., not shot yet; No. 3 University-A, building rig; No. 1 University-B, rig.

Landreth Producing Corp.'s No. 1 State, drilling 1,475 feet, top salt 1,475 feet; No. 2 State, drilling 1,070 feet, top salt 1,020 feet; No. 3 State, drilling 610 feet; No. 4 State, drilling 360 feet; No. 5 State, drilling 225 feet; No. 6 State, rigring up

Magnolia Petroleum Co.'s No. 6 O'Keefe, drilling 985 feet; No. 7 O'Keefe, top pay 3,035 feet, total depth 3,069 feet, hole full oil, swabbed 56 bbls.; No. 8 O'Keefe, location; No. 9 O'Keefe, drilling 2,860 feet; No. 5 State-Lasseter, rigged up and shut down; No. 2 University-Hardwick, drilling 2,905 feet; No. 3 University-Hardwick, rig; No. 4 University-Hardwick, top pay 2,860 feet, shut down 2,995 feet, hole full oil; No. 5 University-Hardwick, top pay 2,910 feet, drilling 2,946 feet, 2,400 feet oil in hole; No. 6 University-Hardwick, drilling 2,840 feet; No. 7 University-Hardwick, rig; No. 8 University-Hardwick, rig.

Simms and Atlantic's No. 8 University, drilling 2,300 feet; No. 9 University, rig; No. 2 University-C, top pay 2,805 feet, total depth 2,835 feet, fishing tools, flowing 30 bbls.; No. 3 University-C, drilling 700 feet; No. 4 University-C, building rig; No. 5 University-C, rigging up; No. 2 University-D, drilling 1,553 feet; No. 1 University-E, building rig.

The Texas Company's No. 1 University, top pay 2,830 feet, hole full of oil, total depth 2,915 feet, jarring too's.

Tidal Oil Co.'s No. 5 University-F, rigging up; No. 6 University-F, rigging up; No. 1 University-H, drilling 3,000 feet; No. 2 University-H, top pay 3,055 feet, drilling 3,067 feet, 1,000 feet oil in hole; No. 1 University-I, spudding 75 feet; No. 2 University-I, location east of No. 1.

Winkler County

Atlantic Oil Producing Co.'s No. 1 T. G. Hendricks, rig.

Gulf Production Co.'s No. 3 T. G. Hendricks, moving in tools; No. 4 T. G. Hendricks, underreaming 12-inch at 430 feet; No. 5 T. G. Hendricks, running 15-inch at 127 feet; No. 6 T. G. Hendricks, running 10-inch at 875 feet; No. 7 T. G. Hendricks, building rig.

Humble Oil & Refining Co.'s No. 1 T. G. Hendricks, rigging up; No. 1 Gr. 1 T. G. Hendricks, drilling 800 feet.

Independent Oil & Gas Co.'s No. 1 Hendricks, top pay 3,049 feet, total depth 3,095 feet, plugged back to 3,075 feet, swabbing 60 bbls.; No. 1 Hendricks-A, drilling 400 feet; No. 2 Hendricks-A, rigging up.

Pure Oil Co.'s No. 1 Central State Bank of Abilene, underreaming 10-inch at 1,552 feet; No. 2 Central State Bank of Abilene, spudding.

Southern Crude's No. 1 Hendricks-B, fishing drill pipe 2,033 feet; No. 2 Hendricks-C, drilling 2,912 feet; No. 3 Hendricks-C, standardizing 2,514 feet; No. 4 Hendricks-C, spudding; No. 1 Hendricks-F, building rig.

Texon Oil & Land Co.'s No. 1 Central State Bank, drilling 250 feet.

New Locations

Following are some new locations in West Texas:

In Reagan County, Henshaw & Camp's No. 1 University, center of SW of Section 14, Block 48, University Land Survey.

In Crockett County, Young & Donnelly's No. 1 J. M. Shannon, center of Section 9, Block 9, D. & S. E. Survey.

In Pecos County, Mid-Kansas Oil & Gas Co.'s No. 2 Yates-B, 1,320 feet from the south and west lines of Section 61, Block 1, H. & G. N. Survey.

In Crane County, Independent Oil & Gas Co.'s No. 3 University-A, 990 feet south and 330 feet west of the NE cor. of the E half of NW of Section 46, Block 30. Tidal Oil Co.'s No. 5 University-F, 1,650 feet south and 330 feet west of NE cor. of the E half of NE of Section 46, Block 30; No. 6, 990 feet south and 330 feet east of NW cor. of the E half of NE of Section 46, Block 30.

In Reeves County, World Oil Co.'s No. 1 A. L. Duff, 170 feet NW of SE cor. of Section 68.

In Taylor County, Sanger Oil & Refining Co.'s No. 1 Stern, 150 feet north and east of SW cor. of north 160 acres of east 320 acres of Section 10, L. A. L. Survey.

In Jones County, Phillips Petroleum Co.'s No. 1 H. B. Vestal, NW cor. SE of Section 18, Block 19, T. & P. Survey. Grisham, Hunter & Wildman's No. 1 Mrs. D. Williams, 150 feet from the north line and 10,900 feet from the west line of League 334, Harrison County School Land.

In Fisher County, Miley Oil Corp. and Marland Oil Co.'s No. 1 W. A. Ammons, center of the S half of Section 198, Block 3, H. & T. C. Survey.

In Sterling County, Inland Oil Co.'s No. 1 D. C. Durham, 150 feet from the south and 400 feet from the east of Section 12, Block T, T. & P. Survey.

In Howard County, Owen & Sloan's No. 1 John Roberts, SW cor. SE of Section 136, Block 29, W. & N. W. Fred Carey's No. 1 Otis Chalk, NE cor. SE NW of Section 124, Block 29; No. 2, NW cor. SE NW of Section 124, Block 29. (Corrected from No. 1.)

In Knox County, The Texas Company's No. 1 J. O. Bowden, 340 feet north and 1,150 feet east of SW cor. of north 148 acres of Bowden tract from east 320 acres of Section 115, Block 45, H. & T. C. Survey.

NORTH CENTRAL TEXAS COMPLETIONS

Brown County

Anderson and others' No. 1 Armstrong was a failure at 1,235 feet. So was Haskell and others' No. 1 White at 1,225 feet. Hughes' No. 12 Shire found sand at 1,258-78 feet and made 1,000 bbls. initial from sand at 1,267-74 feet after a 4-quart shot. Humble Oil & Refining Co.'s No. 14 Hickman made 540 bb's. from sand at 1,220-51 feet. Hurley Oil Co.'s No. 1 Sorrels was a duster at 1,350 feet. McKanna and others' No. 9 Shore had sand at 1,304-1,326 feet and made 250 bbls.; No. 11 pumped 1,800 bbls. from sand at 1,301-20 feet; No. 13 found sand at 1,309-27 feet and made 300 bbls.; No. 14 flowed 250 bbls. at 1,306-28 feet. Nichols and others' No. 1 Hamilton was shot with 40 quarts at 1,152-60 feet and made 6 bbls. Selby Oil & Gas Co.'s No. 1 Ellis made 35 bbls. of oil from sand at 1,320-27 feet. Shoup, Jr., No. 4 Byler had sand at 1,267-85 feet and made 45 bbls. Sinclair Oil & Gas Co.'s No. 3 Shore pumped 1,593 bb's. from sand at 1,296-1,312 feet. The Texas Company's No. 29 Lowe had sand at 1,259-79 feet and made 110 bbls.; No. 31 pumped 268 bbls. at 1,247-64 feet; No. 33 found sand at 1,284-1,307 feet and made 150 bbls.

The Texas Company's No. 44 Lowe made 368 bbls. after a 3-quart shot at 1,296-1,327 feet; No. 46 made 300 bbls. from sand at 1,275-99 feet; No. 47 was shot with 3 quarts and made 432 bbls. from sand at 1,282-1,306 feet. Wallace and others' No. 1 Moore was dry and abandoned at 1,401 feet. Wentz Oil Corp.'s No. 15 Shore made 425 bbls. at 1,310-1,330 feet; No. 16 found sand at 1,307-1,332 feet and made 832 bbls. McIntire and others' No. 1 Bull was a failure at 1,401 feet. Owens and others' No. 1 Seawalt was also a duster at 1,706 feet. So was Peck Hendrick and others' No. 1 Capps at 1,668 feet.

Callahan County

Inglerlight and others' No. 1 Irvin was a failure at 1,800 feet. Mook and others' No. 1-E Baum made 30 bbls. at 1,660-1,704 feet. Roeser & Pendleton's No. 1 Young was a duster at 2,509 feet. Shaw and others' No. 4 Miller was shot with 120 quarts at 1,605-49 feet and made 300 bbls. Shaw and others' No. 5 Miller was also shot with 120 quarts at 1,601-50 feet and made 95 bbls.

Coleman County

Slick's No. 1 Godwin was dry and abandoned at 2,352 feet. Hodge & Baker's No. 1 Feveash was also a failure at 976 feet.

Eastland County

Adamson & Bearman's No. 1 Rosenquest was shot with 40 and 30 quarts at 1,454-64 feet and made 60 bbls. Wilkins & Edwards' No. 1 Lightfoot was a duster at 1,800 feet. Empire Gas & Fuel Co.'s No. 1 Bishop was shot with 320 quarts at 2,929-3,029 feet and made 17 bbls. of oil and 1,500,000 feet of gas. No results were had from Keyes and others' No. 1 fee at 2,520 feet. Magnolia Petroleum Co.'s No. 2 Thomas made 72 bbls. of oil and 2,000,000 feet of gas after a 200-quart shot at 2,919-3,024 feet.

Shackelford County

Gwinnup and others' No. 1-62 Green was a failure at 1,720 feet. Hughes and others' No. 1 Sanders was also a duster at 852 feet. Milham Corp.'s No. 6 Moore made 10 bbls. at 2,114-25 feet after a 10-quart shot. Moore's No. 1 Calvert was dry at 2,013 feet. Republic Production Co.'s No. 4 Myer pumped 7 bbls. of oil from sand at 1,005-12 feet. Tannehill Oil Co.'s No. 128 Matthews failed to produce at 1,185 feet.

Stephens County

Hopkins and others' No. 1 Carey also failed at 3,700 feet. The Texas Company's No. 14 Pierce found top of gray lime at 3,256 feet and made 4 bbls. of oil and 300,000 feet of gas, total depth, 3,391 feet.

WEST TEXAS COMPLETIONS

Crane County

Simms and Atlantic's No. 5 University-A, had sand at 2,944-3,005 feet and made 200 bbls.; No. 2 University-C, was flowing 30 bbls. from sand at 2,805-35 feet. Magnolia Petroleum Co.'s No. 7 O'Keefe swabbed 56 bbls. at 3,035-69 feet.

Crockett County

George A. Henshaw's No. 1 University was a failure at 1,890 feet.

Fisher County

Marland Oil Co.'s No. 1 Rochelle has a hole full of sulphur water and was dry and abandoned at 3,900-11 feet.

Howard County

Bristow & Merrick's No. 3 A. J. Hooks found top pay at 1,799 feet and flowed and swabbed 110 bbls. after a 40-quart shot at 1,799-1,819 feet. Francis & Brunson's No. 1 Furrh, location was abandoned. Lockhart & Co.'s No. 3 Otis Chalk swabbed 30 bbls. at 1,545-60 feet; No. 3 Otis Chalk-A swabbed 15 bbls. from sand at 1,562-70 feet. Magnolia Petroleum Co.'s No. 6 Chalk swabbed 15 bbls. from sand at 1,620-40 feet.

Jones County

The location of Garland & Diamond's No. 1 E. D. Glynn was abandoned. Stebbins Oil Co.'s No. 1 J. M. Higgs pumped 20 bbls. at 1,599-1,615 feet.

Menard County

Clark and others' No. 1 Kothman was temporarily abandoned at 445 feet. J. R. Lewis and others' No. 1 White was also temporarily abandoned at 415 feet.

Mitchell County

B. H. Cogdell's No. 1 McKenzie was temporarily abandoned at 125 feet. California Co.'s No. 1 Z. Morrison, Lease 1, found top pay at 2,947-3,100 feet and swabbed 30 bbls. after a 320-quart shot at 2,947-3,097 feet; No. 4 Petitfiel, Lease 2, had top pay at 2,930-3,065 feet and swabbed 89 bbls. from sand at 2,955-3,065 feet after a 280-quart shot.

Pecos County

Arkansas Fuel Co.'s No. 1 M. Holmes found a hole full of sulphur water at 3,044 feet and will plug. George A. Henshaw, Jr.'s No. 1 I. G. Yates is plugging to abandon at 1,550 feet. Mid-Kansas Oil & Gas Co. and Transcontinental Oil Co.'s No. 1 Yates-B made 7,327 bbls. from sand at 1,185-1,285 feet; No. 1 Yates-C had sand at 1,110-1,115 feet and made 4,415 bbls. The first show was found at 1,014 feet.

Reagan County

Big Lake Oil Co.'s No. 107 University made 30 bbls. initially from sands at 3,050-3,120 feet; No. 111 had sand at 2,880-2,893 feet and made 100 bbls. Texon Oil & Land Co.'s No. 39 University grant 1, made 80 bbls. from sand at 2,903-95 feet; No. 10-A found sand at 2,896-2,909 feet and made 100 bbls. The Texas Company's No. 2 J. D. Sugg was a failure at 3,204 feet.

Taylor County

Gibson & Johnson's No. 1 J. F. Hendry was a duster at 2,004 feet. Sanger Oil & Refining Co.'s No. 1 Gillespie found a hole full of sulphur water and was dry at 4,725 feet.

Upton County

Amerada Petroleum Corp.'s No. 6 Hughes was shot with 120 quarts at 2,175-2,215 feet and pumped 30 bbls. of oil and 50 per cent sulphur water. Humble Oil & Refining Co.'s No. 3

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Late News from the Fields

NORTH AND WEST TEXAS

FORT WORTH, Tex., May 24.—Four wells with an aggregate production of 5,400 bbls. were brought in on the J. K. Hughes shore lease in the J. C. Ryan Survey No. 635, Brown County. No. 6 Shore is flowing 1,600 bbls daily from sand at 1,294 to 1,317 feet. No. 22, east of No. 6, made a similar amount of oil initial from sand at 1,292 to 1,314 feet. No. 24 had sand at 1,289 to 1,314 feet and was shot with 15 quarts to make an 800 bbl. well. It was good for 300 bbls. before the shot. No. 25 Shore is an 800 bbl. well from sand at 1,289 to 1,314 feet.

In Winkler County, Llano Oil Co.'s No. 1 Scarborough, Section 1, Block C-22, is in the pay at 2,992 to 3,094 feet and swabbed 75 bbls. of clean oil without a trace of water in 6 hours May 22. The fluid was swabbed to the bottom of the casing set at 2,680 feet. The well stood for 15 hours and the swab was run to the bottom of the casing and came out without any fluid. The well is shut down for orders.

Six wells in Pecos County gauged 18,061 bbls. for the past 24 hours. On the Yates-A lease, Nos. 1 and 3 did 1,751 bbls. through a half and three-fourths-inch choke respectively. No. 4 flowed 1,961 bbls. through two 2-inch lines. No. 2 flowed 752 bbls. through a quarter inch choke. No. 1-B Yates flowed 9,356 bbls. through two 2-inch lines and No. 1-C Yates made 4,241 bbls. through two 2-inch lines. Mid-Kansas Oil Co.'s No. 1 Smith Taylor, Section 33, Survey 1, is drilling lime at 1,174 feet. The gas increased from 1,000,000 to 4,000,000 feet at 1,165-74 feet. No. oil is showing.

OKLAHOMA

The co-operative well of the Pure Oil Co., Twin State Oil Co. and Skelly Oil Co., No. 1 Ramsey, SE cor. NE SE. Section 7-18-4, was drilled 3 feet deeper and increased the flow to 3,180 bbls.

Marland Oil Co.'s No. 2 Chambers, NE cor. SW SE, Section 9-27-2w, which has opened a new Wilcox sand pool in Kay County, is now making 3,890 bbls.

The Greater Seminole Field made 356,809 bbls. on Tuesday of this week. Roxana Petroleum Corp.'s No. 1 Taylor, SE cor. NE, Section 16-8-6, found the second pay in the Wilcox sand at 4,309 feet, and it is swabbing 270 bbls. daily from a hole full of oil.

Tidal-Osage Oil Co.'s No. 1 Harjoche, SE cor. NE SW, Section 10-8-6, was put on air and made 770 bbls. the first nine hours. Sinclair Oil & Gas Co.'s No. 1 Taylor, SW cor. NW SE, Section 10-8-6, swabbed 196 bbls. daily from the Viola lime found at 3,977 feet. Atlantic Oil Producing Co.'s No. 1 Fleet, NE cor. NW, Section 23-8-6, is drilling in the Hunton lime at 3,984 feet, with 4,000,000 feet of gas. No. 2 Fleet, NW cor. NE NW, Section 23-8-6, passed through the Hunton lime at 4,024 feet, and is

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Half Panhandle Production to Storage

Wells Shut in Because of Inability of Pipe Lines to Handle Output. Little Being Moved by Tank Car

By James H. Dameron
Staff Correspondent, Texas Panhandle Fields

FORT WORTH, Tex., May 23.—The Panhandle Field closed one of the quietest field weeks in its history. Few completions were recorded and only three in Hutchinson County.

However, other developments in the Panhandle occupied the attention of producers there, the principal one causing concern being the pipe line situation. While relieved, the present situation is still a threat and an effort is being made to check a rise in production. For two consecutive weeks daily average production of the field has declined and the sharp drop in new production during the week just closed is expected to bring another drop.

Two pipe lines are sending approximately 50,000 bbls. of Panhandle crude south daily, but little crude, comparatively, is being sent out of the area in tank cars. This is because the movement by tank cars is higher than by pipe lines and with none too many buyers for Panhandle crude it is hard to sell. Those buyers apparently refuse to pay the increase when the Panhandle crude is shipped by tank cars while there is a flood of crude on the market.

With production around 131,000 bbls. daily and only 50,000 being sent through pipe lines and comparatively little going out by tanks cars, better than half of the production is going to storage. On May 1 there was approximately 5,500,000 bbls. of steel storage available. Considerable of that storage has been filled and little new storage has been erected to offset the storage filled since the first of the month.

For several weeks pipe lines have not shown any eagerness to take new connections. The big gushers in the McIlroy Pool are not being permitted to flow open because pipe lines cannot handle the output. Numerous wells will not be cleaned out to revive their production because of the pipe lines' inability to move the crude.

As a result many wells are shut down on top of the sand for pipe line connections. Only a few producers are building any storage of their own to take care of their maximum production.

Plains Crude Oil Co., subsidiary of the Plains Pipe Line Co., Wichita Falls, one of the independent purchasing companies in Panhandle, announced May 21 that it would retire from the market for a while. The company's storage is practically filled. It has approximately 600,000 bbls. in storage but no market for the oil. The company announced to the producers from which the Plains company bought crude that their oil would still be run so long as the Plains company had any storage. However, the oil would not be paid for until a market could be found for it and sold. The Plains company a few weeks ago leased approximately 515,000 bbls. of steel storage to a major purchasing company in Panhandle.

Operations Maintained

Field operations in the Panhandle failed to show much of a drop during the past week and summarized there were 481 operations in the field. They were divided as follows: First reports, 16; locations carried over, 27; derricks building, 5; derricks standing, 17; rigging, 19; wells drilling, 302; wells shut down, 95.

In the field Travis and associates' No. 1 Back, Section 44, Block 25, was probably the most interesting of the wells completed. It opened a new pool in eastern Gray County when it came in sensationally, and then slumped off rapidly. The well was put on the pump last week and made 800 bbls., 5 per cent water, in 19 hours.

The Empire Gas & Fuel Co.'s No. 3 Binkley, Section 86, Block 3, extended the Wilcox-Pampa Pool a short distance south when it was completed in lime and granite wash at 3,160-70 feet. The Gulf Production Co.'s No. 1 Saunders, Section 40, Block 3, which extended production of the same pool approximately 2 miles to the northeast when it was completed making 150 bbls. hourly, is still holding up remarkably.

While the completion list for the past week was being pared a number of wells in the Panhandle were nearing the sand. A check of drilling reports in Hutchinson County showed 37 wells drilling below 2,650 feet. In the same county there are 24 wells either cleaning out after a shot or will be shot in the next few days and completed. A similar check in Carson County shows 11 wells drilling below 2,600 feet and 10 wells either being cleaned out after a shot or being made ready to shoot. A similar condition exists in two other Panhandle counties but in a lesser degree.

Cockrell Well Disappoints

In the gusher territory on the Cockrell ranch in southeastern Hutchinson County another well was down in the producing horizon and failed to make a gusher after a heavy shot. It was Herrogan Oil Co.'s (formerly Herman Brothers) No. 1 Cockrell, NE Section 3, D. & S. E. Survey. The well was shot with 500 quarts at 2,920 to 3,020 feet and responded with only 360 bbls. production the first 24 hours. It will probably be deepened. The two big wells on that ranch each are capable of doing better than 500 bbls. per hour. But both of those wells are pinched in to a much smaller production.

Panhandle operators were more or less interested in the gas line developments of the area. Prairie Oil & Gas Co. is reported to have purchased the interest of McMahon and others in the gas franchises in territory south of Amarillo extending to Lubbock. The Prairie company is reported to be planning immediate construction of a 16-inch line from Potter County to Lubbock.

The Empire Gas & Fuel Co. has opened a branch office in Pampa and is reported to have right of way men buying right of way for the Panhandle-Kansas City line. The same company has engineers at Panhandle surveying for a line running north to Denver from Panhandle.

PANHANDLE COMPLETIONS

Carson County

A completion in the Roxana Pool in northeastern Carson County was the only completion in Carson County during the week. McMan Oil & Gas Co.'s No. 7 E F. Bryan, Section 107, Block 4, had the pay in lime and granite wash at 3,090-3,225 feet and flowed and swabbed 600 bbls. the first 24 hours.

Gray County

Gray County led all Panhandle Counties in completions with seven new wells. Empire Gas & Fuel Co.'s No. 1 W. C. Archer, Section 174, Block 3, averaged 399 bbls. daily for three days from sandy lime at 3,268-3,308 feet; total depth, 3,311 feet. The well is making some gas. Humble Oil & Refining Co.'s No. 3 Binkley, Section 86, Block 3, is flowing 905 bbls. daily from lime and granite wash at 3,160-70 feet; total depth, 3,175 feet. Prairie Oil & Gas Co.'s No. 8 Worley and Reynolds, Section 83, Block 3, in the Pampa Pool, is a 75-bbl. well on the swab from granite wash at 3,068-90 feet.

In the same pool Pure Oil Co.'s No. 4 Davis, Section 86, Block 3, is swabbing 50 bbls. daily from granite wash at 3,155 to 3,200 feet. The well had 1,500,000 feet of gas at 2,835-65 feet. Travis and associates' No. 1 Back, Section 44, Block 25, which opened a new pool in eastern Gray County, was put on the pump and did 435 bbls. the first 16 hours from granite wash at 2,845-54 feet. In the Pampa Pool Wilcox-Pampa Oil Co. completed two new wells. No. 2 Worley & Reynolds, Section 61, Block 3, did 780 bbls. the first 24 hours from 2,816-36 feet. No. 26 Worley & Reynolds did 420 bbls. the first 24 hours from 2,925-45 feet.

Hutchinson County

Prairie Oil & Gas Co.'s No. 11 M. Weatherly, Section 19, Block Y, swabbed 40 bbls. the first 24 hours after a 10-quart shot at 3,030-40 feet; total depth, 3,052 feet. The hole was plugged back to 3,045 feet before the shot. Travelers Oil Co.'s No. 4 W. L. Kingsland, Section 6, Block Y, made 600 bbls. initial after a 230-quart shot at 2,953-3,018 feet. The well made 220 bbls. from 2,970-3,018 feet before the shot. Gulf Production Co.'s No. 6-E J. A. Whittenburg, Section 71, Block 46, was dry and abandoned at 2,888 feet.

Wheeler County

In the gas area of southwestern Wheeler County Lone Star Gas Co. completed two wells. No. 1 Alexander, Section 129, Block 23, was completed as a 26,000,000-foot gas well at 1,785-92 feet. Same company's No. 1 Linkey, Section 93, Block 17, was a 10,000,000-foot gas well at 1,780-1,890 feet. In the Shamrock area two oil wells were completed. Mid-Kansas Oil & Gas Co.'s No. 3 W. E. Curlee, Section 41, Block 24, made 90 bbls. initial on the swab from granite wash at 2,331-43 feet. Northtex Oil Co.'s No. 1 J. H. Jackson, Section 11, Block 27, swabbed 210 bbls. the first 24 hours from granite wash at 2,218-85 feet.

DAILY AVERAGE PRODUCTION
AMARILLO DISTRICT
Week Ending May 21, 1927.

Company	Wells	Average May 21.
HUTCHINSON COUNTY		
Antelope Creek Oil Co.	1	0
Alaska Pet. Co.	1	10
Amerada Pet. Corp.	9	550
American Ref. Co.	8	470
Apex Oil Co.	2	620
Atlantic O. P. Co. (was Grimes & Watt)	1	20
Badger Oil Co.	2	75
Bain et al.	1	100
Barnsdall Oil Co.	3	205
R. G. Barnum	1	25
Black Diamond Oil Co.	1	10
Blockins & Kistler	2	200
Buffalo Oil Co.	2	55
Canadian River Oil Co.	6	200
Center Dome Oil Co.	2	10
Centerfield Oil Co.	1	0
Coble-Whittenburg	4	350
Continental Oil Co.	1	0
Currie Bros. & J. R. Phillips	4	760
Cockrell & McElroy	6	4,240
Collier & Taylor	1	10
Delmar Oil Co.	2	25
Derby Oil Co.	8	1,660
Devonian Oil Co.	10	490
Dixon Creek Oil Co.	42	9,100
Dominion Oil Co.	1	0
Double Five Oil Co.	1	50
Donald Oil Co.	1	0
Douglas Oil Co. & Cline	2	15
E. J. Dunnigan et al.	2	100
Echo Oil Co.	4	1,600
Empire Gas & Fuel Co.	27	2,405
Fly Blackburn Oil Co.	2	70
Four Y Oil Co.	1	0
Franterhouse & Wetzel	2	20
Gates Oil Co. (F. E. Kistler)	4	205
Goldelline Oil Co.	7	505
Gopher Oil Co.	1	10
Golding & Phillips	1	10
Gulf Prod. & Panhandle Ref. Co.	54	5,300
Gulf Prod. Co.	42	3,290
L. R. Hagy	1	0
Heywood et al.	1	15
J. K. Hughes Dev. Co.	22	1,350
Holmes, Currie & McKnight	3	190
W. H. Holmes Oil Co.	2	160
Homestead Oil Co.	1	0
Hutchinson County Oil Co.	1	5
Dan A. Japhet	6	600
Julian Pet. Corp. (Canyon)	5	750
Kelly Petroleum Co.	1	20
Kistler Oil Co.	4	400
Kistler & Lenix	2	500
Lenix Oil Co. et al.	1	105
J. H. Lenix	1	10
Lenix & Patterson	2	160
Lucky 10 Oil Co.	4	150
Magic 80 Oil Co.	1	10
Manhattan Oil Co.	1	85
Marland Oil Co.	57	3,115
Midwest Exploration Co.	22	3,315

(Continued on Page 171)

WILDCAT OPERATIONS IN PANHANDLE

Week Ending May 21, 1927

Company, Well, Farm Name, Section and Block—	Remarks—
ARMSTRONG COUNTY	
United Oil & Trust Co.'s No. 1 J. P. Reck, Sec. 162, Blk. 4, H. & G. N. Sur.	Spudded and temporarily abandoned.
BRISCOE COUNTY	
C. S. Rice's No. 1 J. C. Anderson, SE cor. NW NW Sec. 22, Blk. B-3, B. S. & F. Sur.	Fishing 1,600 ft.
CARSON COUNTY	
Amatex Dev. Co.'s No. 1 E. S. Polling, Sec. 32, Blk. 3-Y.	Temporarily abandoned 1,930 ft.
Empire G. & F. Co.'s No. 1 C. R. Garner	Top pay 3,100 ft.; total depth 3,140 ft.; flowed 70 bbls. lime and granite wash 3,120-40 ft.; will deepen.
Empire G. & F. Co.'s No. 2 M. P. Co. fee-A, NE cor. SW Sec. 91, Blk. 4	Top lime 2,278 ft.; top pay in lime and granite wash 3,030 ft. to 3,158 ft., flowing 200 bbls. daily, fishing for tools.
Empire G. & F. Co.'s No. 3 M. P. Co. fee-A, SE cor. SW Sec. 91, Blk. 4	Pay 3,120-52 ft., flowed 715 bbls.; will deepen.
W. A. Gamble's No. 1-A John Dies, 30 feet N of cen. Lot 7, Blk. 11, Panhandle Townsite, Sec. 69, Blk. 2, T. T. R. R. Sur.	Drilling 660 ft.
J. K. Hughes Developing Co.'s No. 2 F. E. Percival, NW cor. E half NW Sec. 199, Blk. 3	Cement 8-in. 3,130 ft.
Marland Oil Co.'s No. 1 Burnett-J. C NE NE Sec. 121, Blk. 5	Drilling 3,130 ft.; small spray oil 3,072-3,130 ft.
Marland Oil Co.'s No. 2 C. R. Garner, Sec. 198, Blk. 3	Cleaning out to deepen 3,155 ft.
Marston Oil Co.'s No. 1 J. L. Noel	Rigging standard tools 3,064 ft.
Navajo Oil Co.'s No. 1 E. S. Polling, Sec. 32, Blk. 3-Y.	Set 8-in. 2,150 ft.
Stubblefield et al's No. 1 E. Cooper, SW cor. NE Sec. 5, Blk. 9, I. & G. N. Sur.	Drilling 350 ft.
Vitek Oil Co.'s No. 1 J. H. Eller, NE cor. NW Sec. 209, Blk. 3	Rig up and shut down.
Vitek Oil Co.'s No. 1 C. R. Garner, SW cor. Sec. 113, Blk. 4, I. & G. N. Sur.	Drilling 2,275 ft.
CASTRO COUNTY	
Colorado O. & R. Co.'s No. 1 M. Siemons, SW cor. Sec. 78, Blk. M-17, B. S. & F. Sur.	Rig.
Gulf Prod. Co.'s No. 1 Clements, SW cor. Sec. 37, Blk. M-10-A, Sealy & Morris Sur.	Set 8¼-in. at 2,514 ft.; drilling hard lime 2,960 ft.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE Sec. 333, Blk. M-6, S. E. & K. Sur.	S.D. 510 ft. for casing.
CHILDRESS COUNTY	
Brookins et al's No. 1 Mrs. Givens, 600 feet N and W of SE cor. Sec. 676, W. & M. W. Sur.	Spudded and shut down.
Hoover & Calloway's No. 1 O. L. Tucker	Cellar.
C. L. Sloane et al's No. 1 B. P. Smith, Sur. 49, F. P. Knott lands	Drilling 2,785 ft.
COLLINGSWORTH COUNTY	
Harmon & Deems' No. 1 Wilson (Scott), Sec. 44, Blk. 31.	Location.
Wischkamper's No. 1 fee, C SE Sec. 93, Blk. 16	Shut down 2,500 ft.

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[DUNN TOOLAGRAM]

DUNN "SUPER-SAFETY" ELEVATORS

OIL WELL DUNN TOOLS

Dunn "Super-Safety" Elevators are all the name implies - - - super-safe, super-fast, super-design and super-construction. Departing from the conventional in the refinement of mechanical detail, they achieve radical improvements in point of all-round performance.

Dunn "Super-Safety" Elevators are offered to you for comparative tests under your own conditions, without reservations. You and you alone to be the judge as to whether or not they are really super elevators.

Made also in the side-door type, regular and extra heavy weights, single and double link.

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MANUFACTURING COMPANY
OXNARD, CALIFORNIA

Mid-Continent Branch Warehouse
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Export Sales Office
150 Broadway, New York City

DUNN ROTARY FLYER PATS. PEND
DUNN ROTARY FLYER PAT. PEND.
The "Rotary Flyer" in fully open position showing center member or body in lowered position.
The "Rotary Flyer" partly open, showing raised position of center member, or body
ELEVATOR
GOING UP!
DUNN
SUPER-SAFETY
PAT PEND
Double Door "Flyer" Type
[Rear View]

Wilcox Sand Wildcat Near Thomas Pool

Seminole Reports 18 Wells Drilled in and 31 New Operations. Production 360,000 Bbls. Bowlegs Less Prolific

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

After drilling in a new wildcat Wilcox sand well in northern Oklahoma, and various attempts to shut down the Seminole Field, a few revelations about the geology of the Bowlegs area of Seminole, and the completion of one of the first cooperatively drilled wells, the Oklahoma fields passed a comparatively calm week.

The Seminole shut-down was declared effective at noon Saturday, May 14, and on that date the output of the field was 340,000 bbls. In the 10 days which have intervened, 18 wells have been drilled in, and 31 new operations started within the area, while the production has climbed to 360,000 bbls. This is the best summary of actual experience in the field, and it can hardly be considered a perfect shut-down.

The Marland Oil Co.'s No. 2 Chambers, NE cor. NW SE Section 9-25-2w, is the new wildcat well. It is located 2 miles north of the old Thomas Pool, which had its greatest activity during the summer of 1925, and it found the Wilcox sand at 4,265-77 feet, and is flowing 2,800 bbls. daily. It is a quarter mile east of a Wilcox sand dry hole drilled several months ago, which had a good showing in the deep horizon, and which caused the Marland company to drill the No. 2. There is some shallow production closer than Thomas Pool, but the Wilcox sand has been tested out in many other directions from Thomas with negligible results. The new well has opened a pool the limits of which are problematical, but which is anticipated to have a rather limited area.

The Bowlegs Pool of the Greater Seminole Field now has 60 completed wells within its area, and sufficient information has been obtained to advance some ideas of its future. The initial wells have had a huge output, but an inspection of their performance over a period of time discloses that they do not maintain their flush as well as did the wells in the Seminole or 9-6 part of the field. They decline much more rapidly, and as a result it becomes necessary to put them on air-gas lift method at an early stage in their life.

Different in Bowlegs

The reasons for this is that a different condition prevails in the Bowlegs area than at Seminole. Seminole wells drilled a solid body of good, thick, fine-grained sand. The Bowlegs wells have thus far encountered a limey formation with two distinct pay levels. The samples examined revealed a limey condition which has been the result of deposition rather than cementation in the sand, and is directly traceable to early structural conditions during the ancient epoch when the sediments were laid down. Considering these factors it is thought likely that the Bowlegs area will prove to be less desirable and prolific than the 9-6 area, although its present output is well above 100,000 bbls. daily.

Earlsboro More Like Seminole

The Earlsboro area of Seminole while erratic in structural conditions, is considered likely to furnish a better duplicate of Seminole than Bowlegs, for although Earlsboro has been characterized by some sharp disappointments, its sand is more like that drilled at Seminole, and the output of the present producing wells has ben more uniform and their declines less sharp. The various wells in the north end of the pool furnish a perfect illustration of this, and although there have been some marked unconformities in high and low wells adjoining each other in the pool, the general belief now prevails that this part of the field has been underrated, and that it will still furnish a great amount of additional production. The Empire Gas & Fuel Co.'s No. 1 Adams, SE cor. SW, Section 3-9-5, is now the most closely observed well in this area and is reported to be running very high as it nears the pay formation. Should this be a good well, it will immediately open another vast area to a hasty drilling campaign, and will probably cause 40 wells to be started between it and the present delineations of the pool.

The general crude situation in Oklahoma is rather solid considering the huge production, and it is apparent from pipe line shipments that 1927 is doing its utmost to establish records for the amount of crude shipped to eastern and northern refiners. The daily average shipments of almost every crude purchasing concern are considerably above the figure for this time of last year. Approximately 170,000 bbls. daily are finding their way into the storage tanks in the Kansas-Oklahoma pipe line territory.

Late Completions

The following wells were late completions in the Seminole Field: Empire Gas & Fuel Co.'s No. 4 Lacey, NE cor. SW SW, Section 14-8-6, sand 4,063-88 feet, made 3,250 bbls. Phillips Petroleum Co.'s No. 4 Strothers, SE cor. NW SE, Section 27-9-6, made 1,280 bbls. after a shot of 15 quarts in sand 3,997-4,018 feet. Indian Territory Illuminating Oil Co.'s No. 1 Barnett, NW cor. SW NW, Section 24-8-6, had 10,000,000 feet of gas in the Misener sand at 4,255 feet, and the casing is being underreamed. T. B. Slick is shut down with a hole full of water in Wilcox sand 4,231-36 feet, in No. 1 Fox, SE cor. NW SE, Section 16-8-6. Indian Territory Illuminating Oil Co.'s No. 6 Livingston, SW cor. NE NW, Section 15-8-6, had sand 3,932-80 feet and a break to 4,000 feet, and has a fishing job in sand 4,003 feet. The well flowed 270 bbls. the first 24 hours.

The Burbank district of Osage County came in for some attention when the Skelly Oil Co. drilled three wells upon the lease which it purchased at the last Osage lease sale for a price of $550,000. The wells are No. 3, SE cor. SW SW, Section 27-27-6, sand 2,882-2,995 feet, 70 bbls. an hour after a shot of 150 quarts; No. 1, SE cor. SW, Section 27-27-6, is drilling at 2,930 feet and apparently missed the sand altogether as it should have touched it at 2,870 feet, according to calculations; No. 5, NW cor. SW SW, Section 27-27-6, is making 50 bbls. an hour from sand 2,895-2,905 feet, and will be shot. The Skelly Oil Co. now has a production of 2,780 bbls. from the four wells completed on this lease.

First Community Well

One of the first community wells to be completed in Oklahoma is the Pure Oil Co., Twin State Oil Co., and Skelly Oil Co.'s No. 1 Ramsey, SE cor. NE SE, Section 7-18-4, which is making 1,100 bbls. daily from Wilcox sand 4,112-18 feet. This well was drilled as the results of the three owners pooling their acreage and sharing the cost of drilling according to their respective interests in the block. The progress of this operation will be interesting to observe, and the owners will have ample time to pursue drilling at their pleasure. There will be no line fights to harass their efforts, and it is announced that the drilling will be continued very slowly.

Seminole Production

The daily average production for the Greater Seminole area for the week ending May 20 follows:

Bowlegs

Company and Farm—	Wells	Prod.
Amerada:		
Rasco	7	15,575
Atlantic:		
Jones	2	1,580
Taylor	1	2,562
Carter:		
Bowlegs	1	3,305
Harjoche	2	200
Walker	1	65
Wise	3	12,822
Empire:		
Lacy	3	5,056
Gypsy:		
Brown	1	105
Walker	4	8,500
Indian Terr. Illum. Oil Co.:		
Davis	2	4,955
Goforth	3	8,042
Livingston	5	8,528
Walker	4	10,244
Youngblood	2	3,798
Mid-Continent:		
Baker	2	2,446
Prairie:		
Gahagen	1	3,210
Harber	2	3,485
Pure:		
Reed	6	7,468
Roxana:		
Taylor	1	915
Sinclair:		
Adam	1	40
Bowlegs	1	235
Harjo	3	6,425
Jones	1	3,580
Walker	1	2,760
Texas:		
Reed	1	1,735
Tidal:		
Harjoche	1	0
Total	62	116,831

Earlsboro

Amerada:		
Anderson	3	6,718
Cowden	1	6,035
Barnsdall:		
Savolka	1	5,190
Smith	1	1,624
Crosble:		
Bryant	1	4,275
Gypsy:		
Bora	1	0
Earl	1	110
McFarland	2	2,152
Peter	2	5,872
State	4	8,100
Strain	1	23
Independent:		
Knapp	1	2,412
Magnolia:		
Bryant	1	3,556
Holmsley	1	6,887
Sparks	1	502
Mid-Continent:		
McCumber	2	4,960
Phillips:		
Graham	2	1,915
Philmack:		
Dobbs	1	1,420
Prairie:		
Baker	1	289
Sinclair:		
Foreman	1	0
Shallow production	31	4,300
Total	60	66,340

Seminole

Amerada:		
Killing	4	703
Fixico	4	2,487
Rentie	4	1,704
Atlantic:		
N. Cudjo	4	830
Jones	2	65
Carter:		
B. Carter	2	215
J. Carter	4	120
F. Carter	3	745
R. Cudjo	3	3,520
W. Cudjo	1	725
Gilliland	1	865
Grisso	7	2,830
Knapp	3	1,772
Killing, M.	8	19,242
Killing, G.	3	2,216
Lukes	4	2,600
Simpson	2	790
Strother	2	6,585
Vierson	4	1,885
Carbon	3	5,192
Jones	2	3,589
Empire:		
Wilson	3	2,430
Gypsy:		
Butler	3	1,272
Carter	8	2,405
Fixico	5	210
Harjo	2	1,125

RENEWED ACTIVITY IN BLOOMFIELD; BLANCO WELL ATTRACTS ATTENTION

By Special Correspondent

FARMINGTON, N. Mex., May 21.—Renewed drilling activity in the Bloomfield district, the Seven Lakes district continuing to attract many investigators and some new wells starting, and the Union well at Blanco still being carefully watched by all interested in the San Juan field, were the high points of interest during the week.

R. M. Smith has started operations for the California Eastern Oil Co., on the Abrams tract in the Bloomfield district.

The Hogback Oil Co., has reorganized, changing its official personnel so that the present officers are James Sellers of Los Angeles, president; Joe Voight, first vice president; Glenn L. Coffee, second vice president; Charles L. Wendt, treasurer, and J. W. McCarthy, secretary. The capital stock has been doubled making it $160,000.

The Mid-Continent Oil Co., is moving its rig from the Hare tract to the Ransom tract in the Bloomfield district, Section 22-29-11, and will start putting down another hole as soon as it can rig up.

The Senate Oil Co., operating in the Kutz Canon district, Section 34-29-11, is still working to cement off the gas and bring it up between the two strings of casing, intending to go deeper for oil production if the gas is thus controlled.

The Kansas-Colorado Oil Co., is a new organization composed of Kansas and Colorado operators who have taken over the operations of the Southwestern Development Co., on the Atteberry tract, Section 24-31-11. It is arranging to put in a rig and go down to the Mesa Verde sand for oil production. A small flow of oil was encountered in the Farmington sand so there is encouragement to go down.

Bloomfield District

The Ross-Bloomfield well in the Bloomfield district, Section 11-29-11, which was bottomed at 2,630 feet when work was suspended has been reorganized and the new operators, which include a part of the old company members, are arranging to pull the small casing and underream and go down to the Mesa Verde sands. This will mean deepening the present hole some 300 feet. California parties are behind this program.

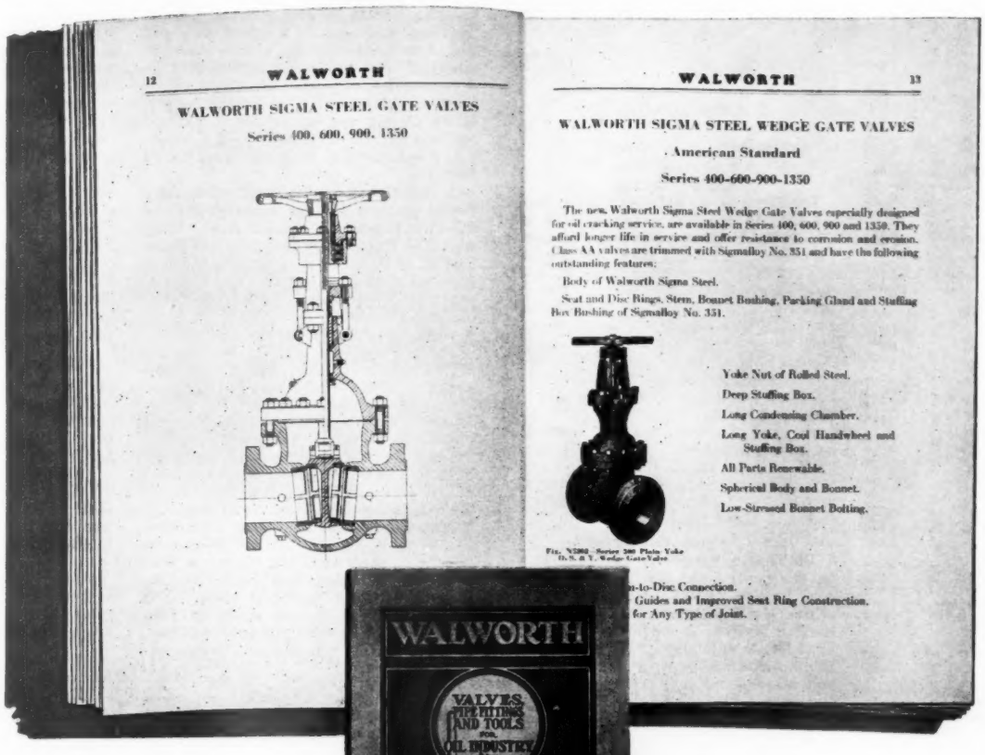
The Portage Oil & Gas Syndicate is being inspected by three of its financial backers from Ohio who announce they are going ahead, but their full program has not yet been arranged. It is most likely they will go down to the Mesa Verde sands for oil production. This can be done successfully in the well on the present location on the Glade structure, Section 24-30-13, it is believed.

Benedum-Trees, in the north area of the Seven Lakes district, with C. S. Ringle as contractor, was drilling at a depth of 3,300 feet at the last report with the Dakota sands as the objective.

The Huerfano Petroleum Corp., an organization composed mostly of local men, is moving rig on the location which is in Section 25-29-11. The rig will be handled by Drillers Dave Stacy and J. W. Wilke, both of whom are interested in the company. Their objective will be oil in the Mesa Verde sands unless production is encountered at a shallower depth.

R. M. Smith is closing a drilling deal with Ben B. Owens to drill acreage in

(Continued on Page 159)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Wolf	6	2,680
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Bowlegs	10	5,084
Goodin	4	843
Harjo	4	742
James	4	1,210
Marcy	1	Off
Reed	3	38
Kingwood:		
Johnson	5	3,292
Magnolia:		
Franks	2	1,688
Mid-Continent:		
Rentie	9	2,380
Tayeche	7	600
Mid-Kansas:		
Presley	1	225
Johnson	1	810
Philmack:		
Butler	1	1,690
Phillips:		
Strothers	2	1,305
Prairie:		
Gross	5	200
Spencer	1	20
Strother	6	3,285
Mason	1	640
Pure:		
Strother	17	6,705
Strother, B.	1	1,635
Roxana:		
Harber	2	1,037
Lashley	2	422
Sinclair:		
Dicey	1	875
Carter	2	40
Cudjo A.	6	1,890
Cudjo B.	3	1,735
Fixico	4	1,355
Slick:		
Born	1	20
Cudjo	3	2,808
Franks	7	3,295
Giblet	1	1,840
Superior:		
Cudjo	4	3,862
Texas:		
Mayhue	1	60
Tidal:		
Carter	5	2,825
Fixico	7	2,060
Harjo	7	215
Mahardy	5	1,430
Tayeche	2	3,440
Turman:		
Cudjo	4	2,258
Grisso	1	709
Jones	4	7,435
Total	275	143,732
Searight		
Carter:		
Davis	5	8,665
Frazier	4	3,820
Kiker	1	45
Scott	1	40
Stewart	1	25
Gypsy:		
Cudjo	1	872
Mid-Continent:		
Grayson	5	7,585
Saloche	1	55
Prairie:		
Cannon	1	[illegible]
Carter	1	25
Houck	1	10
Kincaid	8	6,140
Pure:		
Aldridge	1	805
Roxana:		
Strother	1	359
Searight:		
Youngblood	2	Off
Sinclair:		
Polly	1	1,110
Twin States:		
Cudjo	1	1,208
Wilcox:		
Chupco	2	2,300
Total	38	33,094
Grand total	435	359,997

Bryan County

Magnolia Petroleum Co., has a machine on the ground for No. 1 H. Marshall, NW cor. SW NW, Section 26-5s-7.

Carter County

Humble Oil & Refining Co. is building the rig for No. 4 Dixon, NW cor. SW NW, Section 19-1s-3w. Magnolia Petroleum Co.'s No. 1 Peck, SW cor. Section 17-1s-3w, was abandoned at 3,795 feet. Humble Oil & Refining Co.'s No. 13 Jordan, NE cor. NW NW, Section 19-1s-3w, was completed for 15 bbls. in a series of sands 2,602-3,153 feet. No. 1 Bumpass, NE cor. SE SE, Section 33-1s-3w, was abandoned at 3,300 feet. Pure Oil Co.'s No. 2 Kenedy, NE cor. SE NE, Section 12-2s-3w, is producing 10 bbls. from sand 3,360-70 feet after plugging back from 3,634 feet. Phillips Petroleum Co.'s No. 3-A Dougherty, SE cor. SW NE, Section 29-2s-3w, is making 17,000,000 feet of gas from sands 2,341-49 feet and 2,486-2,514 feet.

Creek County

Bu-Vi-Bar Petroleum Co. has the rig on the ground for No. 1 Benifield, SE cor., Section 24-15-7. Gray Oil Co., and others' No. 1-A Beaver, NW cor. SE SW, Section 20-15-8, is spudding. C. G. Tibbins' No. 1 Narchubby, NW cor. SW SE, Section 26-15-8, is rigging up. Haddock and others have built the rig for No. 1 Grayson, SW cor. SE, Section 10-18-9. Sherry and others have the rig up for No. 1 Berryhill, SW cor. NW SE, Section 4-18-10, to deepen an old well. Posey Short's No. 2 Miller, SE cor. SW NW SW, Section 5-18-12, is spudding. W. S. Turman has the rig on the ground for No. 3 Pemberton, CNL NW NW, Section 8-17-10 McCullough Oil Co. has built the rig for No. 3 M. Joconton, NE cor. SW SE, Section 13-17-10. Pontiac Oil Co. has the rig up for No. 1 Fulson, an old well, CNL NW SW, Section 13-17-10. Elson and others have the rig material on the ground for No. 1 Dickson, SW cor. SE, Section 19-17-10. Liza Tim Oil Co. has built the rig for No. 3 Inman, CSL SW SW, Section 9-17-11. Cumberland Oil Co. has a machine at the location for No. 4 Meyer, CNL SW SW, Section 18-17-11. Love & Meters have put the rig up for No. 3 Hendrickson, CSL SE NW, Section 21-16-9.

C. L. Freeland's No. 1 Strip, NW cor. SE NE, Section 36-15-7, is making 30 bbls. from sand 2,460-85 feet. J. B. Grieves' No. 1 Bartlett, NE cor. Section 13-19-8, had sand 2,127-59 feet drilled to 2,170 feet and after a shot of 80 quarts made 75 bbls. Gled Oil Co.'s No. 1 Williams, SW cor. SE, Section 27-19-8, is a dry hole in sand 3,280-98 feet. Transcontinental Oil Co.'s No. 2 Ingalls, SE cor. Section 24-17-7, was shot with 60 quarts and is producing 80 bbls. from sand 3,566-75 feet. No. 3 Hoover, NE cor. SE, Section 21-17-8, has been abandoned at 3,534 feet. F. R. Billingslea's No. 1 Bruner, SE cor. SW SW, Section 10-16-8, is dry and abandoned at 3,317 feet. Pure Oil Co.'s No. 3 Mitchell, SW cor. NW NW, Section 29-14-8, was completed for 250 bbls. from sand 3,460-68 feet. Gypsy Oil Co.'s No. 1 Fixico, SE cor. NW NE, Section 30-14-8, was shot with 20 quarts and is making 220 bbls. from sand 4,060-77 feet. Bu-Vi-Bar Petroleum Corp.'s No. 1 Jackson, NE cor. SW, Section 9-18-10, is dry and abandoned at 3,250 feet in the Turkey Mountain sand. Abbott & Dillard's No. 1 Carter, SE cor. SW SE, Section 13-17-9, is dry and abandoned at 3,108 feet in the Wilcox sand. Dixie Drilling Co.'s No. 1 Tannes, SE cor. SW NW, Section 7-17-10, is dry in the Wilcox sand 3,100-76 feet. O. M. Irelan's No. 1 Berryhill, NW cor. NE SE, Section 25-17-10, is dry and abandoned in the Wilcox sand 2,935-90 feet. Elson & Detrick and others' No. 1-A Provence, SE cor. NE SE, Section 5-16-10, has been abandoned in the Wilcox sand 3,188-3,215 feet. C. G. Tibbin's No. 36 Unallotted, CSL SE NW, Section 30-15-9, was shot with 80 quarts in the Wilcox sand 3,543-3,626 feet and is making 350 bbls. Farquran and others' No. 1, Townlot 35, Block 26, Section 6-18-12, Oakhurst Pool, is producing 40 bbls. after a shot of 80 quarts in the Turkey Mountain sand 2,182-2,205 feet. S. J. Smith and others' No. 5 T. Fife, CEL NE SE, Section 4-17-11,, was completed for 10,000,000 feet of gas in the Wilcox sand 2,344-56 feet.

Grady County

J. B. Bailey has the rig built for No. 1, C NE NW, Section 1-10-6w. Magnolia Petroleum Co.'s No. 1 Miller, SW cor. NE SW, Section 22-3-5w, is drilling deeper at 2,445 feet. Amerada Petroleum Co. and W. H. Gant's No. 6 Hicks, SW cor. NE NE, Section 21-3-5w, has the rig built. Stogner and others have built the rig for No. 1 Fryear, SW cor. SE SE, Section 14-5-8w. Carter Oil Co. made the location for No. 4 Dryden, NW cor. SW, Section 2-4-8w. Magnolia Petroleum Co.'s No. 1 Rockhold "C", C SW NW, Section 11-4-8w, an old well being deepened, is drilling at 1,550 feet.

Smith & Son's No. 1 Pipps, NE cor. NW SE, Section 1-3-6w, has been abandoned at 2,864 feet. Carter Oil Co.'s No. 1 Horseman, NE cor. SE NW, Section 8-3-5w Carter-Knox Pool, is swabbing 120 bbls. from sand 1,832-46 feet and 1,849-52 feet. No. 1 Nash, SE cor. SW, Section 8-3-5w, is swabbing 60 bbls. from sand 1,849-53 feet. No. 6 Walford, SE cor. SW, Section 16-3-5w, had sand 1,781-83 feet and swabbed 688 bbls. first 24 hours. No. 2 Woods, SW cor. NE NE, Section 17-3-5w, is making 30,000,000 feet of gas from sand 2,268-70. No. 2 Miles Kerans, NE cor. NW SE, Section 21-3-5w, is making 277 bbls. from sand 1,653-78 feet. Clark & Cowden's No. 3 Kerans, SE cor. SW NE, Section 21-3-5w, has been abandoned at 1,520 feet.

Grant County

Blackwell Oil & Gas Co.'s No. 4 Lane, NE cor., Section 22-27-3w, was completed

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EMPIRE GAS & FUEL GETS GOOD WELL IN BUTLER COUNTY, KANSAS

By J. L. Dwyer
Staff Correspondent, Kansas Fields

The Empire Gas & Fuel Co.'s No. 1 Hutchinson, SW cor. NE Section 34-27-5, south of Haverhill in Butler County, is the best well to be announced last week. This well had sand at 2,689-98 feet, and flowed by heads making a flow every 10 minutes. It is estimated at 200 bbls. as it now stands.

In the Leon district of Butler County, H. H. Patton and others' No. 1 Shriver, SW cor SE SE Section 33-27-6, is swabbing 8 bbls. an hour from sand at 3,090-96 feet.

A considerable amount of wildcatting seems planned for the country west of Wichita through Kingman, Reno, Sedgwick and Harper Couties. Various showings of oil have led to this plan, and it is reported that core drilling has strengthened the belief that oil may be found in the area mentioned.

Barton County

Rankin and others' No. 1 Sooy, C SE SE Section 28-18-12w, is dry and abandoned at 3,565 feet.

Butler County

Skelly Oil Co., Phillips Petroleum Co. and Connell's No. 1 Harrison, NW cor. SE Section 8-24-4, is dry and abandoned at 2,563 feet. Rogers and others' No. 15 D. Bitler, NE cor. NW SE Section 20-26-8, made 75 bbls. from sand at 2,705-38 feet after a shot of 60 quarts. No. 16 D. Bitler, SW cor. SE Section 20-26-8, was shot with 110 quarts in sand at 2,695-2,735 feet and made 75 bbls. Federal Oil Co.'s No. 11 D. Bitler, CNL NE NE Section 31-26-8, made 100 bbls after it was shot with 160 quarts in sand at 2,707-54 feet. Rosenthal, Lassen and others' No. 4 Shaffer, NW cor. NE SE Section 4-27-6, is making 60 bbls. from sand at 3,176-80 feet. Magnolia Petroleum Co.'s No. 2 Shricer, SW cor. NW NW Section 34-27-6, is a 50-bbl. well in sand at 3,066-75 feet. Patton and others' No. 1 Shriver, NW cor. SW NW Section 34-27-6, is producing 50 bbls. from sand 3,087-91½ feet. Empire Gas & Fuel Co.'s No. 33 Moyle, NE cor. SE SE Section 10-28-4, was completed for 50 bbls. in sand 2,564-66 feet. Mid-Kansas Oil Co.'s No. 1 Gilson, NW cor. SW SE Section 3-28-6, is a 35-bbl. well in sand at 3,036-42 feet. Sawver and others' No. 1 Kramer, NW cor. SE Section 28-29-3, is dry and abandoned at 3,270 feet.

Paul & Nuttle has the rig up for No. 2-A Dillenbeck, SE cor. NE SE, Section 35-25-4. Cress, Frank and others made location for No. 1 Bryson, NE cor. Section 26-27-5.

Chase County

Preston & Pasewalk have the machine at the location for No. 5 Lipps, C NE NE Section 36-18-6. Kewanee Oil & Gas Co.'s No. 1 Lipps, C SW NE Section 32-18-6, is dry and abandoned at 1,170 feet.

Chautauqua County

Griffen, Bell and others' No. 3 Oliver, CSL N half SW NW Section 1-32-10, was completed for 2,000,000 feet of gas in sand at 1,996-97 feet.

Cowley County

Roxana Petroleum Co.'s No. 1 Carlson, SW cor. Section 21-30-3, an old well, has been plugged back to 2,979 feet from 3,065 feet.

(Continued on Page 163)

GEOPHYSICISTS CEASE SHOOTING EAST CENTRAL TEXAS COUNTIES

By Special Correspondent

CORSICANA, Tex., May 21.—The only completions reported in East Central Texas in the week in review, were two dry holes. One of these, McCarty and others' No. 1 Brown, Jackson Survey, Limestone County, was abandoned at 3,201 feet. The other, Dillon & Hammond's No. 1 Jones, Flippen Survey, Limestone County, was junked at 3,400 feet.

The business of scientifically shooting East Central Texas counties believed to contain buried salt domes is about concluded. The geophysicists of the Roxana Petroleum Corp., Amerada Petroleum Corp., Gulf Production Co. and Humble Oil & Refining Co., with their seismographs and dynamite have shot Anderson, Smith and Cherokee Counties from one end to the other and it is said they have concluded their work. It would seem that the crews have not had sufficient time to have gone over such a big area, but at least two of the companies had four machines at work. Each outfit can have any number of recording stations and the outfits that have made this gigantic survey are known to have had as many as four. Also it is known that some long shots have been taken and that the discharge of each others' shots have been advantageously used. It is the claim of geophysicists that the work done recently is equal to the drilling of eight wells per day and that they can check the subsurface information. The Gulf Production Co. has been experimenting with three magnetic field balances to determine their worth in oil geology. It has not been learned whether or not they have been a success.

Recent Blocking

The acreage recently blocked by several big companies is believed to be over salt domes. The Roxana Petroleum Corp. has blocked 2,000 acres between Mount Silman and Reynolds in northwestern Cherokee County. The Panhandle Oil & Refining Co. has blocked 6,000 acres in the extreme northwest of Cherokee County on the south side of the Brocks Salt Dome. It joins acreage of the Gulf Production Co. and others and is in the John Walker, John Jordan, and a part of the John Vaughn Surveys.

Humphries & Kirby have a 300-acre piece leased last year out of the Jose Marie Musque Survey, in Cherokee County. They will drill this piece jointly. The location is on the C. Sessions farm. Timbers are on the ground.

The Humble Oil & Refining Co. blocked 10,000 acres in the V. E. Callion and Van Keller Surveys, in Smith County. This block joins the city of Tyler on the east. The Roxana Petroleum Co. went over this block with seismograph but passed it up. The Gulf came in and "shot" the area and apparently thought well of it.

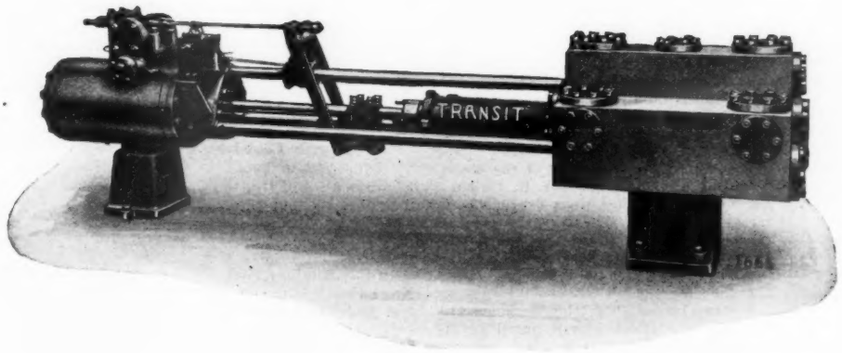
The Amerada Petroleum Corp. has 6,500 acres out of a 10,000-acre block northwest of Troup and northeast of Bullard in Smith County. It is out of the Bullard heirs, Brimberry, William Miller, Mathew Maise, John Kincannon, E. Copeland, Jacob Hirrin, A. D. Currie, Robert Sanders and John Hamilton Surveys.

In Walker County

In Walker County, the Roxana Petroleum Corp. has 4,000 acres, the Gulf Production Co., 7,500 acres and the Humble 8,000 acres which they purchased from a Houston man who had leased the land previously. This acreage runs in a general east to west di-

(Continued on Page 162)

Successful Refining



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New Salt Dome Found in Coastal Area

Roxana Petroleum Corp. Gets 1,500-Bbl. Well in Brazoria County. Production Less Despite Greater Flush Output

By P. L. McGreal
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., May 23.—A new producing saline dome was added to the list in the Gulf Coast Plains Wednesday when the Roxana Petroleum Corp. brought in No. 1 on the banks of the San Bernard River, off the Allen Dome, in Brazoria County. The well was drilled into 8 feet of sand at 5,131-39 feet and came in without bailing, flowing initially 1,500 bbls., 31 gravity oil. Later the flow was cut down to 700 bbls. through a one-quarter-inch choke. Three 500-bbl. tanks were on the location and more have been erected.

The Allen Dome, otherwise known as the Churchill, is between Freeport and the town of Brazoria and the well is in the shallow water of the river, the derrick being about 20 feet from the east bank. The Freeport Sulphur Co. recently abandoned several shallow tests drilled for sulphur on the west bank of the stream. The Roxana has some 8,000 acres on and around the dome under lease. It is also drilling tests on a state prison farm, known as Clemens, north of the Allen. The large acreage precludes and possibilities of offset drilling.

Both domes were located by geophysical methods, the torsion balance and the seismograph being used. The Roxana started drilling its first test 20 months ago and has prosecuted the work with vigor. Shallow tests confirmed the torsion balance outline of the salt and deep tests were then started. No. 3 Allen was the deepest and was only abandoned two weeks ago at 5,835 feet. It was one of the deepest wildcats in the history of the Gulf Coast region. The company has drilled 10 tests to date on and around both domes.

The Roxana is now drilling 2-A Pabst off the Clemens Dome around 5,370 feet and No. 4 Clemens below 4,735 feet. No. 1 Bell is at 1,735 feet.

Wells Completed

The new production developed during the week in the Coastal Pools totaled 13,860 bbls., or an increase of 8,225 bbls. over the previous week. Wells completed number 27, of which 7 were dry and 4 salt water holes. The Spindletop and Blue Ridge Pools furnished most of the new output. In the former pool, the Yount Lee Oil Co.'s No. 13 fee is flowing 4,000 bbls. at 4,450 feet. The Sun Oil Co.'s No. 10 McLean came in flowing 2,000 bbls. and No. 9 McLean is bailing at 5,200 feet. The same company's No. 1 Price is pumping 65 bbls. at 5,200 feet. The Grayburg Oil Co.'s No. 1 McLean is bailing at 5,290 feet.

Six wells were completed in the Blue Ridge Pool in Fort Bend County, 15 miles southwest from Houston, yielding 4,850 bbls. of new production. One was a salt-water hole, W. E. Woodruff, trustee, getting the saline fluid at 1,015 feet. The Navarro Oil Co.'s No. 1-A Robinson is flowing 2,200 bbls. at 4,200 feet, 30 gravity oil, through one-half-inch choke. The Gulf Production Co.'s No. 10 West-Schenck on the south side of the dome, was completed at 3,760 feet and came in flowing 2,000 bbls., 22.4 gravity, with one-half-inch choke. Same company's No. 5 Invincible on the southwest flank is good for 75 bbls. at 3,703 feet and No. 9 Blakely is bailing. Its No. 10 Luscher is heading 200 bbls at 3,940 feet. The Abercrombie Oil Co.'s No. 9 West Schenck bailed dry at 3,530 feet. The Humphrey Corp.'s No. 3 West-Schenck is heading 500 bbls. of fluid, 35 per cent water and basic sediment at 3,410 feet. The Overly Production Co.'s No. 1 Blakely is drilling around 5,010 feet.

In Other Pools

The Hull Pool furnished 1,100 bbls. of the gross for the week. The Gulf Production Co.'s No. 59 Phoenix is flowing 1,400 bbls. of fluid, 40 per cent water and basic sediment, at 3,400 feet. The Hull Oil Co.'s No. 2 Harrison will make a pumper at 3,350 feet. The Texas Company abandoned No. 2 Hannah in salt-water at 4,000 feet.

At Pierce Junction, the Navarro Oil Co.'s No. 1 Cain on the east side, will make a pumper after being worked over at 3,935 feet. The Texas Exploration Co.'s (H. T. Staiti and associates') No. 10 Dooley on the same side of the dome, is bailing at 4,000 feet. H. R. Cullen's No. 8 Howe, another work over, is bailing at 4,650 feet. The Navarro Oil Co. abandoned No. 1 Humble on the northwest flank in salt at 4,260 feet. A location for No. 2 Humble has also been abandoned.

In the Orange Pool, the Texhoma Oil Co.'s No. 16 Chesson will pump at 3,375 feet.

The Gulf Production Co.'s No. 14-A Wright in the Goose Creek Pool is bailing at 2,800 feet.

Three wells were abandoned in the Hardin County pools. The Texas Company quit No. 1 Homestead, located 1,500 feet north of production at Sour Lake, at 2,150 feet. It is the fourth attempt to extend production on the north side in the past 15 years.

The East Side Oil Co. got salt water in No. 1 Ogden on the east side of the Saratoga Pool at 2,375 feet.

The Sterling Oil Co. got the same in No. 6 Hooks in the Batson Pool at 1,400 feet.

The Texas Company abandoned No. 1 Felder in the Boling Pool in Wharton County at 4,630 feet.

The west side of the South Liberty-Dayton district on the west side of the Trinity River, is a disappointment. The Gulf Production Co.'s No. 1 Bingle on that side is making only 40 bbls. of fluid, 50 per cent oil, at 3,800 feet. The Humble Oil & Refining Co. abandoned No. 7 Welder on the same side at 3,750 feet.

South Louisiana Pools

In the Vinton Pool, the Vinton Petroleum Co.'s No. 6 Rescue was worked over into a 15-bbl. pumper at 2,450 feet.

The Vacuum-Gulf's joint No. 15 Miller in the Lockport Pool is bailing at 4,350 feet.

In the Jennings Pool, Ratcliffe & Seiss' No. 1 Smith is pumping 45 bbls. at 1,500 feet and Cline & Son's No. 5 Conklin is making 30 bbls. on the jack at 1,600 feet.

In territory outside of the pools proper, the Gulf Production Co. abandoned No. 2 Trone at 1,080 feet and No. 2 Wolfe at 975 feet at Long Point Dome in Fort Bend County.

The Texas Company quit No. 1 Paddock in Brazoria County at 1,000 feet.

Gross Production

The estimated daily average gross production for the week ending May 21 is placed at 153,092 bbls., a decrease of 922 bbls. notwithstanding the large new production developed during the week. Declines in the old pools offset the new production at Spindletop, Blue Ridge and other pools.

The estimate for each pool is as follows:

Pool—	Dly Avg.
Boling	2,055
Batson	1,420
Blue Ridge	5,200
Big Creek	4,200
Barber Hill	710
Dayton	30
Damon Mound	900
Edgerly, (La.)	575
Goose Creek	8,720
Humble	4,400
Hull	20,700
High Island	575
Jennings, (La.)	1,025
Lockport, (La.)	7,110
Markham	450
Nash	1,350
Orange	5,350
Orchard	20
Pierce Junction	10,520
Piedras Pintas	85
Spindletop	51,000
Saratoga	1,130
Sour Lake	4,650
South Liberty-South Dayton	3,460
Stark, (La.)	975
Vinton, (La.)	5,200
Welsh-Anse La Bute, (La.)	37
West Columbia	9,350
*Miscellaneaus	2,100
Total	153,092

*Includes the new well in Brazoria County, also Nachogdoches, Washington and Kleberg Counties; Cameron, Calcasieu and Iberia Parishes in Louisiana.

SOUTHWEST FIELDS	
Luling	15,250
Mirando	13,400
Somerset	1,200
Calliham	30
Rockdale-Minerva	1,040
Lockhart, (Lytton Springs)	2,150
Total	33,070
Grand total for week	186,162
Grand total last week	187,519
Net decrease	1,357

Drilling in the Pools

Retrenchment is the order of the day in the Coastal section. The deep sand area at Spindletop on the southwest side of the old cap rock pool has developed into what in the slang of the day would be termed a "sure enough" deep sand proposition. Most of the recent production is coming from sands below 5,000 feet—ranging from that to 5,200 feet. The bulk of the work there now is on the south end of the area of less than 30 acres and only the major corporations can afford to indulge in the luxury of drilling such deep wells. As a consequence the number of rigs operating in the 30-acre deep sand area is decreasing each week. The Texas Company is trying to extend the limits of the deep sands one-half mile north with its No. 1 Garrick, now drilling around 4,500 feet and J. O. Davis is one-half mile west with his No. 1 Gladys in which the bit is below 5,900 feet.

The Magnolia Petroleum Co. is working westward on its tank farm strip on the south side, drilling No. 3 fee around 5,335 feet and No. 5 fee at 4,012 feet. No. 1 Gladys tank farm is at 1,455 feet. The Gulf Production Co.'s No. 11 Oakwood, southwestward, is at 1,365 feet. On the McLean lease, recently taken over from the Atlantic Oil Producing Co., No. 3-A is deepening at 3,000 feet, as is No. 5 at 4,455 feet and No. 8 drilling around 5,500 feet. The Sun Oil Co. has a derrick standing for No. 11 McLean and is drilling No. 12 at 5,186 feet. The Gulf Co.'s No. 7 Mann is at 1,200 feet.

Other wells follow: The Walker Oil Co.'s No. 1 Quinn is standing idle at 5,400 feet. The Lord Mothner Oil Co.'s No. 2 Banks is also idle at 4,000 feet. Derricks are up for the Hines Oil Co.'s No. 2 Gordon; the Spindletop Western Oil Co.'s Nos. 2 Weed and 1 Deutser; the Multiple Oil Co.'s No. 1 Deutser and the Kinnear Oil Co.'s No. 1 Gladys. The Rio Bravo Oil Co. (Southern Pacific

(Continued on Page 159)

VENEZUELAN EXPORTS TO REACH 4,000,000 BBLS. MONTHLY BY FALL

By Special Correspondent

MARACAIBO, Venezuela, May 10.—Venezuela stepped into fourth position as as oil producing country for 1926 by producing 37,238,532 bbls.; an increase of 16,325,932 bbls. over 1925; and closed the year by producing 131,880 bbls. in December, with bright prospects of a large increase in 1927.

The V. O. C. led in production for December with 1,012,300 bbls.: Caribbean Petroleum, 480,000; Lago, 521,500; Gulf, 766,600; British Controlled Oilfields, 207,270; and General Asphalt 60,000. The latter is located in Eastern Venezuela, the companies' operations are confined to the Maracaibo Basin.

The Sinclair, Mexican Seaboard, Union Oil Co. of California and the Amerada were four major companies to make their appearance in 1926, and with the abandoning of Venezuela by the New England Oil Co. and The Texas Company, leaves a total of 25 registered companies who drilled a total of 36 wildcat wells in 1926, which resulted in the bringing in of two new commercial fields and excellent prospects for three or four others. The most important discovery was the Lagunillas Field by the Gulf Oil Co. in May 1926 from depth of 3,500 feet. The well has a settled production of 3,700 bbls., and by the close of the year the field was producing over 16,000 bbls. per day.

Three months later the Gulf Oil Co. made its second find of the year when it struck oil at 2,372 feet at Punta-Benitez, with a flush production of 6,000 bbls.

The Standard Oil Co. of New Jersey struck a large flow of gas at 4,036 feet in the district of Buahivacon, and it is expected this will lead to the opening of a new field.

Near the city limits of Maracaibo the Venezuela Oil Concessions Co. struck a good showing of light oil at a depth of 1,680 feet. The well, catching fire, burned for several days.

The Standard of California also had a good show of oil and gas in its wildcat in the district of Democracia at 3,432 feet.

In the district of Acosta, west of Puerto-Cabello, the North Venezuela Petroleum Co. brought in a 180 bbl. well of light oil at about 2,175 feet. This is a rather important discovery, as it is outside the Maracaibo Lake producing region.

Production of Maracaibo Basin continues to increase very rapidly, and with all available tankers moving at capacity all available storage of 8,640,000 bbls. is about full, and some of the companies find it necessary to pinch in their wells or let them stand just above the sand.

In March of this year the 23 tankers of the Caribbean Oil Co. average seven trips each, per month, from their oil docks on the Lake to the refinery at Curocao, for a total of 1,996,000 bbls.

The Lago Petroleum Co.'s nine tankers made an average of nine trips per month to Aruba, with a total of 1,075,000 bbls.

The Venezuela Gulf's seven tankers averaged 11 trips per month to their outside terminal at Paraguana with 871,000 bbls., which gives the total export for Maracaibo Basin 3,942,000 bbls. for the month of March.

With the arrival in the near future of the Gulf's and Lago's three new tankers each, and the Caribbean's six new ones, the export will easily reach 4,000,000 bbls. per month by early fall. While the General Asphalt Co. on the Eastern Coast exports on an average of 60,000 bbls. of heavy oil per month.

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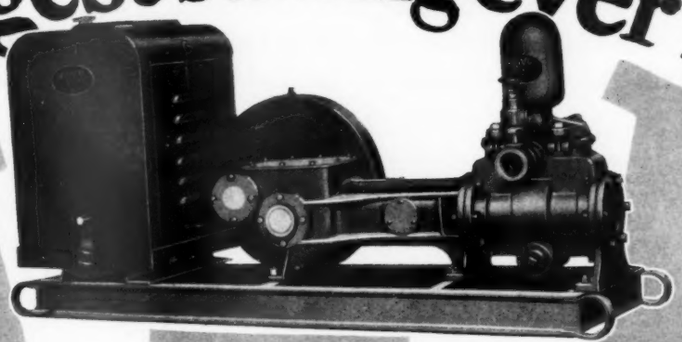

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Caddo Parish Has Revival in Drilling

Seven New Wildcats Reported During Week. Pleasant Hill Area Most Active and Interesting in Louisiana

By Nell Williams
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., May 23.—Although there were practically no field developments of importance in the entire Arkansas - North Louisiana district the past week, there was a very noticeable increase in new operations. In Caddo Parish, where most of the new operations were, there was a revival of drilling activity.

There were 30 new operations reported during the week, 17 of which were in Caddo Parish. Seven of the remainder were wildcats. This marked increase in activity despite the generally unfavorable conditions and the drilling campaign already under way in the wildcat Pleasant Hill district of northern Sabine and southern De Soto Parishes is causing a little more interest in field work in this division.

Arkansas and North Louisiana oil fields have been unusually hard hit the past six weeks. With operations already at an extremely low ebb and companies unwilling to take the initiative or undertake anything new because of the low market, floods and high water caused further suspension of work and cast a monotonous pall over the entire district.

While there still is no incentive from a market standpoint for new drilling in this division, the release from the grip of flooded conditions is offering some relief from the extreme dullness and is enabling operators to undertake work held up for several weeks due to the high water.

Pleasant Hill Busiest

The Pleasant Hill district is an exception. It was unaffected by floods, and the intensive drilling campaign there now is not a matter of making up lost time, but really an effort to make an important field as soon as possible. All operations there are going down as rapidly as possible, making the district the most active and interesting in the entire North Louisiana-Arkansas division.

There were no developments in this new field the past week, but in all probability there will be within the next few days. Woodley Petroleum Co.'s No. 1 Robinson, Section 33-10-12, has reached the producing level found by the five wells now producing in the district and has cemented the 6⅝-inch casing at 3,126 feet, preparatory to going into the sand and making a test. This is the south offset to Arkansas Fuel Oil Corp.'s No. 4 Logan, which was bailed in several weeks ago flowing better than 100 bbls. daily.

William Sebastian Syndicate's No. 1 Sebastian, Section 11-10-13, which tested dry last week, failing to extend the field north into DeSoto Parish, is shut down at 3,206 feet waiting for fuel with which to drill deeper in an attempt to pick up some lower formation. Five miles east of the Sebastian test and 5 miles north of the discovery wells of the district a new derrick has been erected for a test by Beery and LeGrande. This is No. 1 Giauque, Section 3-10-11. Another new test which will be started in the district will be Morgan and associates' No. 1 Reece, Section 5-9-12, for which a derrick was being built the past week. This is in the southwest extension pool.

The Pleasant Hill field is producing 455 bbls. of 42 gravity crude daily from five wells. The oil, being clean and of a gravity materially better than that ordinarily produced in southern Arkansas or northern Louisiana, is a big inducement to operators.

New Production

Completions in the Arkansas-North Louisiana district the past week added 872 bbls. of new production, all in Caddo Parish, Louisiana, and Union County, Arkansas. Eight producers were completed, of which the most important was Lion Oil & Refining Co.'s No. A-11 Lawton, Section 10-16-15, Norphlet district of Smackover. This well is producing 500 bbls. daily, of which 10 per cent is salt water.

Four gas wells also were among the 21 completions. Among these was Dixie Oil Co.'s No. 81 Robertshaw, Section 13-21-15, Pine Island Pool, flowing 35,000,000 feet of gas from a depth of 3,647 feet, the Trinity horizon. The Lawson-Urbana wildcat field of Union County, Arkansas, also added another gas well in Sunny Jim Oil Co.'s No. 4 Flenniken, Section 5-18-13, which is making 10,000,000 feet from sand at 2,691-2,700 feet. This field offered a surprise this week when one of the big gassers, Marine Oil Co.'s No. A-1 Wynn, Section 11-10-18, making 60,000,000 to 75,000,000 feet of gas, suddenly went dead. The cause of this had not been determined Sunday.

Production the past week in this division was practically unchanged, a decrease of only 310 bbls. being reflected in the daily average. Production by fields was:

NORTH LOUISIANA	
Caddo light	9,915
Caddo heavy	5,235
Homer	5,210
Haynesville	7,760
DeSoto and Red River	3,665
Elm Grove	645
Bellevue	1,400
Cotton Valley	5,690
Urania	8,485
*Pleasant Hill	455
Total	48,460
ARKANSAS	
El Dorado	6,260
Lisbon	3,865
Smackover light	10,930
Smackover heavy	89,440
Stephens	1,350
Nevada	1,415
Bradley	125
Total	113,385
Total both states	161,845
Total last week	162,155
Difference	310

*Formerly included under DeSoto and Red River.

A summary of operations the past week shows 21 completions, 10 wells waiting on standard rigs, 10 temporarily abandoned, 191 drilling, 17 rigs up, 31 derricks and 11 locations. Detailed operations in proven fields were:

LOUISIANA

Bossier Parish

Humble Oil & Refining Co.'s No. 30 Bliss & Wetherbee, Section 15-19-11, is coring at 1,999 feet after testing salt water at 1,994 feet. This is in the Bellevue district and the only active drilling well in proven areas of Bossier Parish except for The Texas Company's No. 14 Caplis, Section 24-16-12, Elm Grove, which is shut down waiting on a standard rig at 1,551 feet.

Caddo Parish

Eight wells were completed in Caddo Parish during the week of which three were producers, two gas wells and three dry holes. One of the dry holes was Owl Oil Co.'s No. 1 Bell, Section 5-17-16, Waskom Field, which was abandoned at 1,952 feet. B. A. Hardy's No. 2 Thigpen & Herold, Section 26-18-16, was completed making an estimated 7,000,000 feet of gas from sand at 901-10 feet. M. I. Morgan's No. 8 Glassell, Section 10-20-15, is pumping 35 bbls. of oil at 2,293 feet. In Section 22-20-16, Gulf Refining Co.'s No. 268 Ferry Lake, is flowing 26 bbls. daily through 2-inch tubing from a total depth of 2,286. Dixie Oil Co.'s No. 81 Robertshaw, Section 13-21-15, is making 35,000,000 feet of gas from a depth of 3,647 feet. This well originally was drilled to 3,775 feet but was plugged back. In Section 21, The Texas Company's No. 5 Hicks & Payne was abandoned as dry at 3,143 feet. W. D. Chew's No. 5 fee, Section 33-21-16, is pumping 20 bbls. Ohio Oil Co.'s No. 1 Moodie Fortner, Section 5-22-16, was abandoned as dry at 3,072 feet.

Owl Oil Co. has a rig up for a new test in the Waskom Field west of Shreveport. This is No. 4 Florsheim, Section 9-17-16. In Section 4, same field, Magnolia Petroleum Co. has started operations at No. 1 Bell, setting 13⅜-inch casing at 190 feet. Bahan & Bahan also have started No. 1 Wilburn, same section, setting 10-inch casing at 100 feet. No. 2 Wilburn, also the same section, tested a showing of salt water at 2,545-48 feet, and also at 2,626 feet. Arrangements are being made to core drill. Another new well to be drilled in the Waskom Field is B. A. Hardy's No. 2 Angurs, Section 6-16-16, for which a location has been staked.

North of Waskom

Some distance to the north of the Waskom Field, Askew and associates are drilling at 1,720 feet in No. 1 Elliott, Section 12-19-12. B. A. Hardy has a rig up for No. 1 Glassell, Section 27-18-16, and locations for No. 1 Trosper, Section 35-18-16, and o. 1 Wheeler, Section 18. In Section 22, Marshall Natural Gas Co. is drilling chalk rock at 1,655 feet.

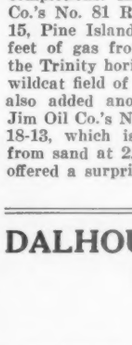
Bayou State Oil Corp. has completed a derrick for No. 29 Hoss, Section 34-22-15. In Section 23, Luby Oil Co. has a rig for No. 15 Levee Board. Ohio Oil Co. will drill a test in Section 32-23-16, having started a derrick for No. 1 Aaron.

J. R. Burton is drilling at 250 feet in No. 16 Bunker & Tompkins, Section 18-

DALHOUSIE TEST IN MADISON LIME MAKING CONSIDERABLE WET GAS

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, May 21.—In the Turner Valley Field southwest of Calgary, Dalhousie Oil Co.'s No. 1 deep test, LSD 4, Section 18-20-2w5, is reported at 3,668 feet and drilling 15 feet in the Madison limestone. The 50 feet of diamond drill hole will be underreamed and a string of seamless 4½-inch casing run down to the present depth and cemented in the limestone. Open hole will then be drilled to production with the diamond drill outfit. Dalhousie's No. 1 is the old Southern Alberta No. 1 flowing well, which for some years had a good commercial production of light crude from the Dakotas. When it was taken over last year by the Dalhousie Oil Co. the decision was reached to carry the test, then standing at 3,527 feet, into the Madison limestone. Tremendous difficulties were encountered in deepening the old well, there being a lot of old iron at the bottom of the hole while the casing was in bad shape. It was found impossible to continue with standard tools so the first diamond drill outfit was brought into the field for the deep drilling. The location is almost directly north of Royalite No. 4 naphtha gusher and in almost the same position in relation to the axis of the formation. The well is making considerable wet gas, but owing to the weight of mud used in drilling it is not certain whether the flow is increasing.



Dalhousie Oil Co. No. 6, LSD 10, Section 13-20-3w5, is drilling at 3,230 feet and nearing the bottom of the Dakota formation. Oil was met in this formation at 2,665 feet, with slight additions lower in the sand, making in all several barrels a day. The test will be continued into the Madison limestone.

Vulcan Oils No. 1 LSD 11, Section 13-20-3w5, has finished the new 2-inch line to the Royalite Oil Co. plant and has started delivery of some 2,000 bbls. of crude naphtha in storage at the well. Spooner Oils No. 1, LSD 12, Section 13-20-3w5, has got two oil sands in the Dakotas. At 3,030 feet a 16-inch sand was met making about 20 bbls. a day of high-gravity yellow crude. The second sand at 3,160 feet has not yet been drilled through. Spooner Oils No. 2, Section 24-20-3w5, is reported rigging up. Vulcan Oils No. 2, LSD 11, Section 13-20-3w5, is reported to have spudded in.

New McDougall-Segur No. 1, LSD 14, Section 12-20-3w5, is maintaining a daily production of 70 bbls. of light crude. Owing to bad roads, the production is held in storage at the well. New McDougall-Segur No. 2, same LSD, has been delayed by bad weather, but will likely spud in next week.

Commonwealth Oil Co. has taken over the Ainsworth Oils location in Section 20-19-2w5; the new company is a reorganization of the Ainsworth Oils, Ltd. It is not likely that any drilling will be done in the near future on this location, the company centering its efforts for the present on the border fields.

Moose Mountain

In the Moose Mountain Field, Signal Hill Oil Co. No. 2, LSD 9, Section 34-23-5w5, is shut down at 1,158 feet waiting for a new cable. Oil showings were met at 1,050 feet and below that depth the drill has been working in a softer formation.

On the Quarantine Reserve near Coutts Urban Oils, Section 4-1-15w4, which discontinued drilling at 3,420 feet, is being given a 10-day production test. The well was reported to have got a show of high-grade oil in the limestone between 3,400 and 3,420 feet, and a shot of 80 quarts of nitroglycerin was tried. This failed to develop production, and it was decided to abandon the well. Apparently the pumping test is being partly financed by popular subscription in Coutts and Sweetgrass. It is understood the test has cost already upwards of $100,000, the company having to rebuild the derrick and replace the rig irons after a fire, while much trouble was experienced in cementing off heavy flows of water.

Near Nemiskam, Canadian Western Natural Gas Co. No. 8 test, LSD 12, Section 5-6-10w4, has spudded in and is running double tour.

South of the boundary, the S. Hart Green-Lerum test, 8 miles southeast of Sweetgrass SW Section 11-37-2w, is reported to have drilled through the Sunburst sands and found them dry, except for a small show of gas. Practically no water was encountered. A new contract for 500 feet of drilling has been let to

(Continued on Page 163)

21-15. This is a new operation, the 10-inch casing having been set at 62 feet. Dixie Oil Co. is drilling at 2,130 feet in No. 8 Fitzsimmons, Section 14. In the same section is Gulf Refining Co.'s No. 13 Tyson, which is drilling at 2,746 feet. Haynes Brothers' No. 1 Murray, also in the same section, is drilling at 3,202 feet, and The Texas Company's No. 13-B Noel at 2,398 feet. Dixie Oil Co.'s No. 2-A Noel, Section 13, is drilling at 3,725 feet, 6-inch casing having been set at 3,720 feet. The same company's No. 88 Robertshaw, same section, has started drilling and is at 75 feet. Double I Oil Co.'s No. 10 Spell, Section 15, also has started drilling. It drilled out the 10-inch plug cemented at 47 feet and has reached a total depth of 900 feet. Lewis Oil Co. has a derrick up for No. 18 Rains, Section 22, and, in Section 24, Magnolia Petroleum Co has a rig up for No. 4 Caldwell. The same company's No. 16 Dillon, this section, tested salt water at 1,750 feet. A location has been staked for No. 21 Dillon in Section 23. The same company's No. 20 Robertshaw, Section 23, is bailing salt water at 3,609 feet. In the same section another location has been staked for No. 21 Robertshaw. In Section 12, Ohio Oil Co. is drilling at 2,100 feet in No. 25 Smith. Shreveport Oil Corp. has cemented 6-inch casing at 1,380 feet in No. 2 State, Section 27.

Empire Gas & Fuel Co. is drilling at 470 feet in No. 1-B Levee Board, Section 31-21-16. Standard Oil Co has set 6-inch casing at 1,809 feet in No. 12 Hart, Section 34. In Section 33, the same company's No. 184 Stiles is waiting on a standard rig at 1,827 feet. Six-inch casing has been cemented at 1,802 feet. In this section, the same company also has staked a location for No. 186 Stiles. W. D. Chew cemented 6-inch casing at 1,800 feet in No. 6 fee, also this section. In Section 14, Dixie Oil Co. has a rig up for No. 5-B Files & Mabry.

Dobson and associates have drilled out the 10-inch plug cemented at 43 feet and are down 800 feet in No. 5 Rives, Section 5-20-16. Gulf Refining Co. has set 10-inch casing at 162 feet in its new test, No. 269 Ferry Lake, Section 29. The same company's No 5 Wemple, Section 14-20-15, is drilling in lime at 1,705 feet. In this section, The Texas Company's No. 7 Curtis is drilling sand rock at 1,807 feet.

In the extreme southeastern part of the parish Arkansas Natural Gas Co. is drilling ahead at 200 feet after drilling out the 10-inch plug cemented at 188 feet in No. 8 Gayle, Section 30-16-12.

LaSalle Parish

Louisiana Oil Refining Corp. has set 6-inch casing at 1,560 feet in No. 1-B Tremont, Section 30-10-2e. Ten-inch casing was cemented at 100 feet.

Monroe District

Although the district still is feeling the effect of floods, receding waters have enabled operations to be resumed at a few tests. Conoslidated Carbon Co. is drilling in No. 1 White, Section 16-20-4e, at 1,612 feet. United Carbon Co. is fishing for a drill stem lost in the hole at 2,114 feet in No. 1 Townsend, Section 29-21-5e. These tests are in Morehouse Parish. In Ouachita Parish, Ladell Properties, Inc., has cemented 6-inch casing at 2,130 feet in No. 39 fee, Section 1-19-4e. The same interests are rigging up for No. 40 fee, Section 29-20-5e.

Webster Parish

M. E. Davis and associates are drilling in lime at 3,100 feet in No. 1 Lee, Section 22-22-9. Magnolia Petroleum Co. also is in lime at 2,355 feet in No. 3 Cox, Section 23-21-10. The latter company has set 6⅝-inch casing at 2,546 feet in No. 1 Marshall, Section 21. In Section 28, Louisiana Oil Refining Corp. has set 10-inch casing at 450 feet in No. 7 Gray. Magnolia Petroleum Co. has a location for No. 1 Obier, Section 32-23-9. Northwest Louisiana Gas Co. is drilling at 4,150 feet in No. 1 Coyle, Section 22-21-10. Also in this section is Ohio Oil Co.'s No. 4 Banks, drilling at 2,145 feet.

ARKANSAS

Union County

Five oil producers, one gas well and one abandoned test summed up completions in Union County, Arkansas, proven fields the past week. The abandoned well was Howell & Knowles' No. 2 Springer, Section 36-17-16, total depth 2,525 feet. This was in the main El Dorado Field. In the Louann district of the Smackover Field, Magnolia Petroleum Co.'s No. 3 Freeman, Section 7-16-16, is pumping 30 bbls. daily from a total depth of 2,692 feet. All other proven field completions were in the Norphlet area of Smackover. Stewart and associates' No. 5 Murphy, Section 9-16-15, is making an estimated 5,000,000 feet of gas and a light spray of oil from a broken sand at 2,705-55 feet. This is a well which was drilled deeper after being completed at 2,446 feet flowing 700 bbls. In the same section Lion Oil & Refining Co.'s No. 2-H Murphy is pumping 450 bbls of fluid. 85 per cent salt water from sand at 2,312-16 feet and Louisiana Oil Refining Corp.'s No. 3-B Murphy is pumping 17 bbls. from a total depth of 2,729 feet. This well was plugged back from a depth of 2,740 feet. Lion Oil & Refining Co.'s No. 11-A Lawton, Section 10-16-15, is pumping 500 bbls., 10 per cent salt water, from sand at 2,390-93 feet. Sun Oil Co. also has a well in No. 20 Hays, Section 3, pumping 250 bbls., 10 per cent salt water, from sand at 2,349-55 feet.

In Section 4, Gulf Refining Co. has staked a location for No. 45 Murphy. Also in the Norphlet area, Humble Oil & Refining Co.'s No. 10 Pate, Section 10-16-15, is bailing a sand at 2,379-82 feet. It tested a show of oil at 2,387 feet. In the same section, Sam Richardson has cemented a short string of 5⅞-inch casing at 2,720 feet. Magnolia Petroleum Co.'s No. 9 Murphy, Section 8-9-16, has a fishing job at a depth of 2,662 feet. The same operator's No. 6 Wilson, Section 17, has had 5⅞-inch casing cemented at 2,775 feet. Total depth is 2,787 feet, a sand showing oil having been cored beginning at 2,781 feet. In Section 15, Southern Crude Oil Purchasing Co. is making arrangements to deepen No. 5-A Wells. This well was completed last October pumping 75 bbls. daily from a depth of 2,591 feet.

In Section 9-16-15, National Gas & Fuel Oil Corp. is cleaning out No. 4 Bilyew, to set the liner. This test has a sand at 2,312-16 feet. No. 1-A Bilyew has 1,800 feet of fluid, 20 per cent salt water, in the hole. The latter has a sand at 2,394-99 feet. The same company also has a rig up for No. 3-F Murphy in this section. No. 5-F Murphy is being reamed down so 6⅝-inch casing can be set. Total depth is 2,780 feet. Ohio Oil Co. is trying to get returns in No. 5 Murphy, depth of this test being 2,725 feet.

In the Louann sector of Smackover, G. J. Childs, Section 8-16-16, has started operations, drilling at 20 feet, in No. 2-B fee. W. H. Gilliland's No. 1-B Hodges, Section 1-16-17, has been shut down waiting orders. Total depth is 2,565 feet. It tested salt water at 2,584 feet. Magnolia Petroleum Co.'s No. 1 Union Lumber Co., Section 21-16-16, is drilling at 2,450 feet.

Brown and associates' No. 1 Slaughter, Section 2-17-16, in the Lisbon Pool, has been shut down waiting orders at 2,295 feet. In the main El Dorado Field, Mountz and associates' No. 6 Pratt, Section 8-18-15, is drilling at 1,630 feet.

Ouachita County

On the Ouachita County side of the Louann Pool, F. A. Book is rigging up No. 3 Johnnette, Section 33-15-16, to deepen it from 1,980 feet where it was completed formerly flowing 75 bbls. Copenhaven and associates' No. 3 Berg, Section 13-15-17, tested a showing of oil at 2,193 feet but is shut down because of titles. Middlesex Oil Co.'s No. 5 Shirey, Section 36-15-17, tested dry in a broken sand at 2,283-94 feet, but arrangements are being made for deepening. The 6⅝-inch casing has been cemented at 2,256 feet.

In the Norphlet district, Exchange Oil Co. is drilling No. 6 Berg, Section 4-15-15, at 2,260 feet. A derrick also has been erected for No. 7 Berg, same section. The same company's No. 3 Umstead in this section has had 6⅝-inch casing cemented at 2,357 feet. Imperial Oil & Gas Producing Co. has cemented back to 2,350 feet from a total depth of 2,713 feet in No. 9 McClanahan, Section 8-16-15. Sunny Jim Oil Co. has cemented the hole in No. 12 Berry, Section 33-15-15, and will shoot the 4½-inch casing. Total depth of the hole is 4,570 feet.

Magnolia Petroleum Co.'s No. 1 Morgan, Section 7-15-19, Stephens district, is drilling in gummy shale at 1,300 feet.

Nevada County

Greason and associates' No. 1-A Groves, Section 12-14-21, is down 1,000 feet after drilling out the 10-inch plug at 40 feet. Humble Oil & Refining Co. is making arrangements to abandon No. 4 Bodcau, Section 9-15-22. Total depth is 3,888 feet. J. J. O'Brien has a rig up for No. 1 Moss, Section 1-14-21. Ozan Oil Co. has cemented 6-inch casing in No. 6 Ellis, Section 2-14-21.

FIVE OUT OF SIX WILDCATS FAIL; EXPECT PRODUCERS DURING WEEK

By Neil Williams

SHREVEPORT, La., May 23.—Developments in wildcat areas of North Louisiana and Arkansas were disappointing the past week as out of a total of six completions five were abandoned tests. The other was Sunny Jim Oil Co.'s No. 4 Flenniken, Section 5-18-13, Lawson-Urbana district of Union County, Arkansas, which is making 10,000,000 feet of gas.

However, from present indications the coming week may add several producers to wildcat territory. For one, Rovenger Oil Corp.'s No. 1 McCain, Section 4-17-14, Union County, Arkansas, is standing 400 feet of fluid in the hole, of which 40 per cent is 28 gravity oil. This production is from a deep sand at 2,828-34 feet.

In LaSalle Parish, Louisiana, Tunica Petroleum Co. has two shallow tests standing in oil but is undecided whether to rig up light pumps or drill deeper. No. 27 L. & A., Section 9-7-2e, has 75 feet of fluid, half of which is oil, standing from sand at 797-800 feet. No. 1 Whately, same section, has 55 feet of fluid, half oil, from sand at 824-30 feet. The oil tests 22 gravity. In the same section, Tunica Petroleum Co. has started operations on two other shallow tests, the No. 28 L. & A. and the No. 1 Hardtner.

In Richland Parish, Gulf Refining Co. had a gas and salt water blowout in No. 2 Rhymes, Section 5-16-6e. The gas is making 15,000,000 feet daily with 1,000 bbls. of salt water. Total depth of the hole is 2,880 feet, but it is not known from where the gas is coming as the well never has been bailed.

In the Carterville area of northern Bossier Parish, W. R Ramsey has killed his 25,000,000-foot gas production in No. 1 Robertson, Section 22-23-12, found when the well was bailed in at 3,099 feet, and is taking a core of deeper formations.

Sun Oil Co.'s No. 1 Thompson, Section 10-18-13, Lawson-Urbana district, which has been watched closely by some operators, swabbed dry at a total depth of 2,544 feet where it has 13 feet of broken sand. The test probably will be drilled deeper.

Seven new operations were reported in wildcat territory during the week, one of which was in Bienville Parish, Louisiana, two in Sabine Parish, two in LaSalle Parish, one in DeSoto Parish and one in Calhoun County, Arkansas. The latter is a location for No. 1 Stout, Section 2-13-14, a very rank wildcat to be drilled by the Arkansas Natural Gas Co.

Detailed operations in wildcat fields the past week were:

NORTH LOUISIANA

Bienville Parish

S. P. Borden's No. 1 L. & A., Section 9-15-7, is drilling at 2,990 feet. Edwin J. Forest has staked a location for No. 1 Perritt, Section 11-17-6.

Bossier Parish

John Glassell, Jr., and associates' No. 1 Gibson-Tiger, Section 14-21-14, at a depth of 1,840 feet, has been shut down for fuel. Palmer Corp.'s No. 4 Bossier, Section 9-16-11, is drilling hard lime at 3,873 feet. Sligo Syndicate's No. 1 Jeter, Section 23-17-12, has had 8¼-inch casing cemented at 2,400 feet. Tubbs and associates' No. 1 Jacobs, Section 26-20-13, is drilling at 2,650 feet.

In the Carterville area of northern Bossier Parish, W. R. Ramsey has killed the 25,000,000-foot gas flow in No. 1 Robertson, Section 22-23-12, and will core drill in an attempt to determine deeper formations. The same operator's No. 1 Dodson, Section 12, is drilling in chalk rock at 2,551 feet. Tate Oil Co.'s No. 1 Dodson, Section 15, has had 12½-inch casing set at 240 feet. Magnolia Petroleum Co.'s No. 1 Dodson, same section, is shut down waiting rotary slips.

Claiborne Parish

Magnolia Petroleum Co.'s No. 1 Lee, Section 16-22-8, is drilling at 3,444 feet. Mitchell & Jansen's No. 1 Wilburn, Section 23-19-7, is in lime at 2,600 feet. Tate and associates' have started operations in No. 1 Maddox, Section 21-23-7, and are at 640 feet, having drilled out the 10-inch plug cemented at 100 feet.

DeSoto Parish

Beery & Legrande have completed a derrick for No. 1 Glauque, Section 3-10-11. Hoosier Oil Co.'s No. 1 Lanier, Section 5-11-11, is drilling at 1,500 feet. Ten-inch casing has been set at 150 feet. Magnolia Petroleum Co.'s No. 1 Logan, Section 17-10-12, is drilling at 2,230 feet. Reliance Drilling Co.'s No. 1 Jones, Section 8-11-14, is at 1,325 feet. Chalk rock was topped at 1,242 feet. William Sebastian's No. 1 Sebastian, Section 11-10-13, is shut down waiting fuel. This test, in the Pleasant Hill district, which tested dry a week ago at 3,003-14 feet, is drilling deeper, total depth being 3,206 feet. Seip and associates' No. 1 Robertson, Section 18-10-12, also in the Pleasant Hill district, has resumed operations after being shut down since March. It is at a depth of 550 feet. The Texas Company's No. C-15 Sample, Section 26-13-12, is drilling in lime at 2,300 feet. The same company's No. A-12 Wemple, Section 2-12-12, is waiting on a standard rig at 2,433 feet.

LaSalle Parish

Tunica Petroleum Co.'s No. 27 L. & A., Section 9-7-2e, has 75 feet of fluid in the hole, 50 per cent salt water, from sand at 797-800 feet. The oil tests 22 gravity. The same company has started operations at No. 28 L. & A., same section. Ten-inch casing has been set at 42 feet. Also in this section, Tunica Petroleum Co.'s No. 1 Whately, has 55 feet of oil, 50 per cent salt water, from a sand at 824-30 feet. Tunica Petroleum Co.'s No. 1 Hardtner, same section, has had 10-inch casing set at 40 feet. The No. 28 L. & A., and the No. 1 Whately, are waiting orders.

Grant Parish

Philp and associates' No. 1 Barrett, Section 17-9-1e, has been abandoned, testing salt water at 1,601-08 feet.

Jackson Parish

Louisiana Petroleum Co. has aban-

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PENNSYLVANIA MARKETS

OIL CITY, Pa., May 23.—Most of the products in the Pennsylvania district are about the same now as they were a week ago, with the exception of gasolines and naphthas, which have strengthened considerably. Movement of gasoline is much better than it has been and demand has increased. In addition, offerings of distress gasoline at less than 9 cents have been withdrawn. The demand for kerosene is just fair now, and that product is a little easier than a week ago. Wax remains pretty weak. Neutrals are very scarce and strong. Cylinder stocks are sluggish. Fuel oil is plentiful and the demand is not good. Bright stocks are unchanged.

Four Disappointments in Kingsville

Hopes for Producers from New Sands Dashed. New Pay Formation Found in Refugio Field at 1,940 Feet

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., May 23.—Four disappointments were recorded the past week from the Kingsville Field where it looked encouraging and hopeful for four producers from new sands. All of them were Humble tests. The No. 1 Kleberg, trustee, at 3,252-60 feet bailed down 2,500 feet and ran out of bailing line. At last reports it was waiting for more line but didn't show much signs of making a well as it stood. The No. 1 Kivlin, in the northeast corner of Block 3, Section 39, which early in the week was reported in and making at the rate of 200 bbls. of oil a day by heads from sand at 2,596 feet, went dead a little later and when tubing was pulled and reset the well came in a gasser making a little oil. No. 3-A Dennett in the northwest corner of Block 2 of Section 39, bailed salt water at 2,512 feet and is drilling deeper and No. 3 King on the east side of the Cayo Del Gruello, sometimes spoken of as the bayou, was dry at 2,325 feet and is drilling deeper.

In the Adams gas field in Medina County Witherspoon Oil Co.'s No. 2 Nixon, more than a mile southwest of the field in Survey 119, which last week came in running wild as a gasser at about 940 feet with no casing in the hole, has set 100 feet of 10-inch and cemented. The well was still flowing gas as this was written and making some water. As soon as the cement is set the gas will be mudded off and casing set and the well completed. About 180 feet of 6⅝-inch was first put into the hole but efforts to cement it were unsuccessful. Then the 10-inch was put in over the 6⅝-inch. The 6⅝-inch stuck at 180 feet and could not be lowered.

A feature of the Refugio Field is the success in finding a new pay formation at 1,940 feet in William F. Morgan's No. 4 Shelly due to testing through the drill stem. Wells have been completed in a sand at other depths and the showing of gas in the lime was passed up because it was not considered important enough to warrant the expense of setting casing. Tested through drill stem it made a 40,000,000-foot well in the No. 4 Shelly. Operators in the field do not believe that this is coming from gas escaped from a lower sand that blew out and cratered, due to the rock pressure being 810 pounds and the volume so plentiful. It looks like a genuine new discovery.

San Antonio Area

Completions in the proven fields outside of the Laredo territory in Southwest Texas were as follows:

Luling Field, Caldwell County: Magnolia Petroleum Co. completed No. 5 Branyon at 2,211 feet with initial production of 78 bbls. In Somerset Field, Bexar County, Associated Petroleum completed No. 15 Caruthers at 1,500 feet with initial production of 11 bbls. In Refugio County gas field, Coast Gas Co. completed No. 1 James Agnes Lambert at 2,470 feet, gauging 25,000,000 feet of gas, and Houston Gas Co. completed No. 3 Moody in the same field, estimated at 20,000,000 feet of gas. In Rockdale Field in Milam County, Rockdale Development Co. completed No. 2-B Lorenz in Thompson Survey, for 20 bbls.; Noack Oil Co. completed No. 4 Chambers for 15 bbls. Lowenstein Oil Co. completed No. 2 Lowenstein, 40 bbls.; Kent-Middleton and Noack completed No. 1 Rowland, 15 bbls.

Completions

Three gas wells with a total of about 140,000,000 feet open flow and one oil well estimated at about 35 bbls. initial on the pump were completed in the Laredo territory last week and four other completions were failures. Of the gas wells, the Cole Petroleum Co.'s No. 42 Benavides in Block 2, Section 23 of the Cole Field, a 50,000,000-foot gas well at 1,694 feet, widens the field at that point on the east side which is a little south of midway between the north end of the Cole Field and the south end production of the O'Hern & Seacord Pool. Houston Oil Co. and Sun Oil Co. got a 55,000,000-foot gasser in sand at 1,609-18 feet at the point where the corners of Surveys 473, 474, 479 and 480 in the A. M. Bruni part of the Servando Benavides Survey which is a little over a mile south and a little west of the Cole well reported above. At the north end of the Cole Field, Moody-Humphreys' No. 2 Benavides in Block 5 of Section 10 of the Cole Production Co. Subdivision at 1,748-57 feet is a 30,000,000-foot gas well.

The one oil well completed was the Magnolia Petroleum Co.'s No. 7 Garcia in Survey 58 of the Schott Field in Webb County which at 1,575 feet is good for 35 bbls. on the pump.

Abandonments

Jones-Garcia's No. 3 Garcia in Survey 463 of the Schott Field is an abandoned location. Morgan-O'Hern-Seacord's No. 1 Webster in Carolina-Texas Field, Webb County, Survey 684, at 3,074 feet, has been abandoned. It was deepened from 2,600 feet, the depth at which the Associated-Carson well produced. O. W. Killam abandoned his No. 1 Bruni in Survey 585, Duval County, at 2,740 feet. It is a half mile or so southwest of the O'Hern-Seacord producers in Survey 174. The Texas Company has abandoned its No. 5 Jennings at 2,200 feet in Zapata County south of the Jennings gas field. It looked for a time as though it was sure to make a well, first at 1,461 feet and later at 1,961 feet. It was tested and the oil filled three joints of the drill stem and the bottom joint with mud but when casing was set it failed to make a well. Livingston-Ritchison's No. 1 Palacious in Jim Hogg County in Survey 287, Block 18, east of the Randado Field, has been abandoned at 1,365 feet which was ample to test the sand producing in the Randado Field.

San Antonio Territory

It was a light week in southwest Texas outside of the Laredo territory. In the Refugio gas field the Coast Gas Co. completed the James Agnes Lambert No. 1 which is a northwest extension of the field, completing the well at 2,470 feet and estimated at 25,000,000 feet. Houston Gulf Gas Co completed its No. 3 Moody at about 1,900 feet, estimated at 20,000,000 feet of gas and in the Cart-

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NEW WILDCAT TESTS PLANNED IN SOUTHWEST TEXAS COUNTIES

By B. D. Stevenson

SAN ANTONIO, Tex., May 23.—Wildcat operations in Southwest Texas the past week were nearly without a feature except that the announcement of some new locations and information that still others are to be made indicates that the amount of drilling in Southwest Texas will run along about the same for some weeks to come. The new tests are to be drilled in Zavala County, one in eastern Bexar, one in Guadalupe near Kingsbury. A deal is about concluded for some drilling in southern Gonzales and another for three tests in Bee County and a couple more in Medina, in addition to new locations definitely announced.

In Medina County the R. P. O'Brien well in Survey 531 and 3 miles west of the Ina Field is on the pump and being tested. The oil had filled the hole half full by the time it was started to pump. Total depth is 1,007 feet but the oil is supposed to come from about 940 feet. Casing is set at 855 feet. It looks like a small well and the opening of a new pool. It is understood that a deal is tentatively made to sell the well and 40 acres. As soon as this test is completed and the size of the well is known it is certain there will be some additional drilling in that territory, some thinking that the best of the field will lie to the north.

As the week closed several wildcat wells that had showings were yet not tested. Alamo Drilling & Leasing Co.'s No. 1 Szalwinski at Fall City in Karnes County, has not yet set casing. Sutton & Smith, with a showing of oil generally said to be at the base of the Austin chalk but which they think is the Blossom Sand, are trying to fish out some 8-inch that parted in the lower part of the well, in order to set 6⅝-inch and test. Total depth is 2,597 feet.

The Rycade's well in Maverick County on the Chittim land, a 29,000,000 foot gasser making 100 barrels of oil at 5,592 feet, and successfully mudded off as reported last week, is now fishing for the tools in the bottom of the hole. The other fishing job required several weeks. The well is one of the most interesting and important in southwest Texas and probably it could be said is the most important at this time, being 100 miles from any production and the gas and oil coming presumably from the Glenrose formation which is not producing anywhere else in southwest Texas.

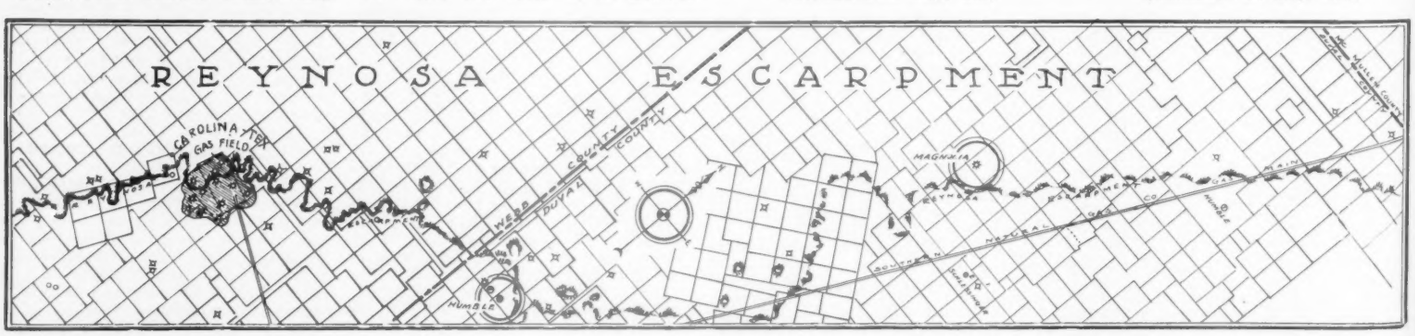
Wildcat in New Sand

Late last week O. W. Killam and C. O. Maddox tested No. 1 Bruni in Block 5, Section 4, a half mile south of the town of Bruni in Webb County, at 2,315 feet steel line measure at the top of the sand through drill stem, and it came in a big gas well and when completed with casing set will probably make around 40,000,000 to 50,000,000 feet. It is a wildcat well and in an entirely new sand.

This well on April 10 blew out unexpectedly while drilling at about 1,400 feet from an entirely new sand at 528 feet and ran wild for a few days and looked like about 10,000,000 feet of gas at that depth. It quite upset the geology of the field and at 2,315 feet it further upsets calculations to some extent. The sand has not been positively identified.

The well is about 2 miles west of near-

(Continued on Page 155)



SAN ANTONIO, Tex., May 23.—The area along the Reynosa Escarpment in Southwest Texas beginning at the Rio Grande in Starr County and extending north and northeast a distance of approximately 250 miles into Fayette County is important in Southwest Texas, so far as the oil industry is concerned. In Zapata and Webb Counties, the various Mirando pools have produced over 12,000,000 bbls. of oil. Also a vast quantity of gas has been produced in that part of the area. Recently the Humble Oil & Refining Co. brought in a 20-bbl. well at 2,709 feet in Survey 400 on the Kohler ranch in Duval County, 8 miles from production. The Magnolia Petroleum Co., 16 miles beyond the Humble's well, completed a 5,000,000-foot gas well at about 4,000 feet.

The map herewith shows the Carolina-Texas gas and oil field in Webb County, the most northerly of the producing spots of the Mirando territory and the Reynosa Escarpment's approximate location as it angles to the northeast through Duval and into McMullen County. In the large circles are shown the Humble's 20-bbl. oil well and the Magnolia's 5,000,000-foot gas well.

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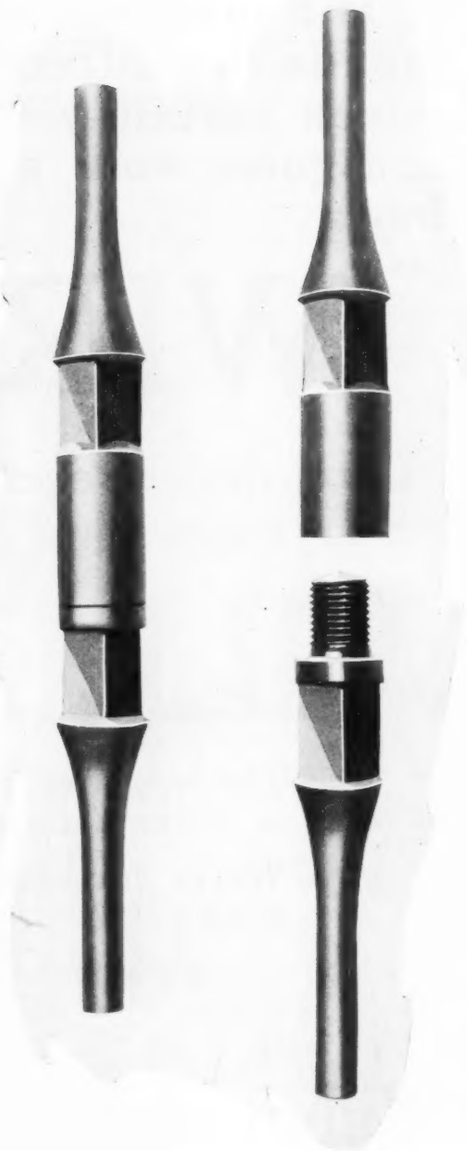

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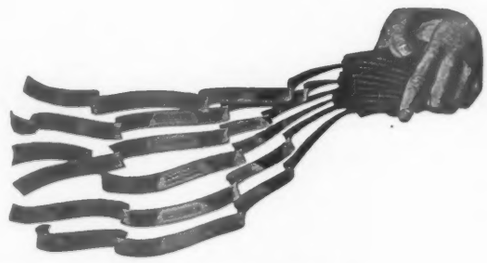

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California Crude Situation Improves

More Production Shut in While Situation at Seal Beach Indicates That Field Will No Longer Prove Menace

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., May 21.—The crude oil situation in California has shown a decided improvement during the past two or three weeks due to curtailment measures initiated by various operators in the Ventura Avenue, Brea Olinda and San Joaquin Valley Fields. This shutting in of production is a logical move and has relieved a rather threatening condition. Daily shut-in production at present approximates 86,200 bbls., of which 31,000 bbls. is light refining crude over 20 degrees. For the past two weeks the Union and Shell have been attempting to formulate a definite policy in the Dominguez Field but it is understood that some difficulty has been experienced in convincing the landowners of the advisability of adopting curtailment measures in this district. Considerable progress has been made, however, and these two companies, which control practically the entire productive area, may possibly undertake something along this line in the near future, although the outlook for curtailment in this case does not look any too bright. If anything definite does ensue from present negotiations it will probably result in a general shut down rather than a mere pinching in of producing wells, although it appears quite likely that the operators and land owners might find it advantageous to use a combination of both methods. The closing down of inside wells and an arbitrary curtailment of one-third in all line wells might prove mutually beneficial.

The crude oil situation in California was further clarified by recent developments in the Seal Beach Field which tend to indicate that this field will no longer prove a serious menace. Attention was directed a short time ago to the fact that this field had shown the usual preliminary indications of depletion and developments since that time have indicated that this deduction was correct. The town lot area has been fairly well defined and, based on a maximum ultimate recovery of 75,000 bbls. of oil per acre, it can be safely assumed that this section is definitely over the top. A 50-ner cent recovery has been effected to date and from now on operators will stage a fast battle for the balance of this recoverable crude. Gas depletion has become quite evident and, while on the subject of future production it would not be amiss to call attention to the fact that most of the new wells from now on will register a much smaller initial daily output than completions finished heretofore. Based on the actual recovery of oil and gas to date and the total ultimate recovery, the writer can not see how more than a few of the various drilling projects now under way can return more than 50 per cent on the investment. A few of the more efficient operators may, of course, exceed this estimate but they will be few and far between.

Sand 75 Feet Thick

The producing horizon in the town lot area at Seal Beach does not exceed 70 feet and it is a foregone conclusion that a sand of this thickness will not sustain intensive town lot drilling for more than a short time at best. It has become common gossip around the field that many of the independent producers are in for a worse trimming than was sustained by other independents in the Los Cerritos, or northwest extension of the Long Beach Field where the producing horizon approximated 100 feet. The sand in the town lot area at Seal Beach had a higher saturation than that found in the northwest extension of Long Beach but the drainage in the former area should be faster because of the difference in porosity between the two sands. The town lot area at Huntington Beach afforded a penetration of from 100 to 1,000 feet in several instances but even this exceptionally thick zone fell off quite rapidly soon after the peak had been attained. This section, however, due to the favorable condition just mentioned, should result in a larger ultimate production than either the town lot area at Seal Beach or the one previously developed at Long Beach. The total daily average production of the Huntington Beach Field has been rather stable during the past 60 days and, while the trend is definitely downward the decline during the rest of this year will probably be relatively gentle as completions from time to time will have a tendency to offset the normal settling in older producers. While on this subject, it might be well to call attention to the outpost of the San Martinez Oil Co. on Ninth Street, several blocks east of present production, as this well may possibly result in some additional drilling.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well, Location—	S-T-R	Depth	Status
Smith Pet. Co., No. 1 Johnson, Hawthorne	17- 3-14	6,215	trace of oil
General Pet., No. 1 Guiberson, Potrero	35- 2-14	Rig	wait. devel.
Calif. Eastern, No. 1 Cypress, Potrero	27- 2-14	3,951	hd. sd. drilling
Associated, No. 1 Cypress, Potrero	34- 2-14	4,450	suspended
Associated, No. 2 Cypress, Potrero	2- 3-14	1,010	set pipe
Getty, George F., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Getty, Paul, No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
California Pet., No. 1 Sutton, Potrero	34- 2-14	Rig	wait. devel.
California Pet., No. 1 Armour, Potrero	35- 2-14	Rig	wait. devel.
Cole, Fred E., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Dill Oil Co., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Walker, Fred, No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Dominguez Exten., No. 1 Compton, Dominguez	22- 3-13	5,530	testing
Getty, George F., No. 1 Tubbs, Rivera	25- 2-12	1,501	gr. sd. drilling
Circle Oil Co., No. 1 Pomeroy, Manchester	22- 3-14	4,128	suspended
Shell, No. 1 Mission, San Fernando	4- 2-15	192	sd. driller
Sou. Calif. Drlg. Co., No. 1 Matteson, El Segundo	1- 3-15	4,870	fishing
Petroleum Sec., No. 1 Weston, El Segundo	27- 4-14	3,192	sd. sh. drilling
Carr, O. P., No. 2 San Diego, San Juan Capistrano	13- 8- 8	1,501	sd. drilling
Cardiff Oil Co., No. 1 Oceanside, San Diego	24-13- 4	2,805	redrilling
O'Donnell, J. E., No. 1 Julian City, Los Angeles Co.	7- 4-14	3,128	sd. drilling
General Pet., No. 1 Lomita, Sunset Beach	19- 5-11	5,454	abandoning
Fisher & Co., No. 1 Rinz, Saugus	27- 5-16	Rig	rigging up
Southwestern Pet., No. 1 Ramsauer, Watts	4- 3-13	580	sd. drilling
Reliance Inv. Co., No. 1 Leuzinger, Los Angeles Co.	8- 3-14	1,125	gas well
Shell, No. 1 Allec, Placentia	31- 3- 9	209	sd. drilling
Standard, No. 1 Olive, Orange Co.	17- 4- 9	Rig	rigging up
Standard, No. 1 Rindge, Palms	36- 1-15	Mtl.	building rig

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Associated, No. 1 Smith, Kettleman Hills	12-23-18	2,043	suspended
Bolsa Chica, Well No. 1 Kettleman Hills	30-23-19	2,365	cmtd. oil sd.
General Pet., No. 1 Burbank, Kettleman Hills	30-23-19	3,105	oil sand
General Pet., No. 1 Dome, Kettleman Hills	26-22-18	707	gr. sd. drilling
C. C. M. O., No. 1 McGlashan, Kettleman Hills	17-24-19	3,050	gr. sd. drilling
South Coalinga, Well No. 1 Kettleman Hills	35-24-19	2,195	testing
Gilbert, W. M., No. 1 Jarritt, Kettleman Hills	20-23-19	Mtl.	building rig
Ahlburg Gas Co., Well No. 1, Kettleman Hills	7-23-23	Rig	standing
Milham Explin., No. 1 Kettleman, Kings Co.	2-22-17	3,091	sd. sh. drilling
Shell, No. 2 Berlywood, Moorpark	32- 3-20	3,489	hd. sd. drilling
C. C. M. O., No. 1 Hobson, Ventura Co.	22- 3-24	6,230	br. sh. drilling
C. C. M. O., No. 1-B Hobson, Ventura Co.	16- 3-24	4,146	br. sh. drilling
Continental Oil Co., No. 1 Newhall, Ventura Co.	36- 4-18	2,595	testing
Continental Oil Co., No. 1 Burnham, Ventura Co.	22- 5-18	2,164	sd. drilling
Milham Explin., No. 1 Sexton, Ventura Co.	19- 3-22	7,100	fishing
Standard, No. 1 Camarillo, Ventura Co.	29- 2-20	4,950	reaming
Standard, No. 1 Montalvo, Ventura Co.	17- 2-22	5,194	hd. sd. drilling
Petroleum Sec., No. 1 Diablo, Ventura Co.	4- 4-18	1,980	hd. sd. drilling
Rio Grande, No. 1 Canet, Ventura Co.	9- 3-23	4,962	suspended
Parkford, E. A., No. 1 Strathern, Ventura Co.	5- 2-18	2,691	hd. sd. drilling
Star Petroleum, No. 1 Canet, Ventura Co.	13- 3-23	4,210	sd. sh. drilling
Richfield, No. 1 Janes, Ventura Co.	16- 5-18	1,909	gr. sd. drilling
Richfield, No. 27 Piru, Ventura Co.	35- 5-18	1,495	suspended
Superior, No. 1 Pena, Ventura Co.	18- 4-17	4,802	sd. sh. drilling
Milham Explin., No. 2 Buttonwillow, Kern Co.	8-28-23	4,650	redrilling
Milham Explin., No. 3 Buttonwillow, Kern Co.	7-29-24	2,162	bl. sh. drilling
Pacific Eastern, No. 1 Bakersfield, Kern Co.	6-30-28	4,075	recemented
C. C. M. O., No. 1 Quinn, Delano	23-25-27	1,723	testing oil
Muroc Dev. Co., No. 1 Rosedale, Kern Co.	13-29-26	1,288	gr. sd. drilling
Barnes Oil Co., No. 1 Edison, Kern Co.	20-28-29	1,846	fair show
Barnes Oil Co., No. 2 Edison, Kern Co.	18 28-29	250	port. outfit
Standard, No. 1 Bacon, Kern Co.	27-28-20	580	sd. drilling
Petroleum Sec., No. 1 Aniotz, Monterey Co.	2-22- 9	2,188	hd. sd. drilling
Birch Oil Co., No. 1 Porterville, Tulare Co.	13-20-26	150	sd. drilling
Richfield, No. 1 Wreden, San Luis Obispo Co.	10-29-17	709	gr. sd. drilling
Shell, No. 1 Cowell, San Mateo Co.	16- 5- 5	3,331	fishing
Shell, No. 1 Murphy, Petaluma	29- 5- 6	5,151	hd. sd. drilling
Shell, No. 1 Ilmorini, Petaluma			location
Talbot Oil Co., Well No. 1 Alameda	15- 3- 3	631	sd. sh. drilling

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This week	Daily Average	Total Last week	Daily Average	This year To date	Same time Last year
Crude oil	78,382	11,197	.....	.....	2,619,798	5,213,782
Fuel oil	78,692	11,241	22,727	3,247	3,196,798	2,456,065
Diesel and gas oil	.....	.....	116,024	16,575	1,386,653	828,131
Gasoline	.....	.....	263,526	37,647	2,649,621	2,130,670
Tops	.....	.....	.....	.....	.....	149,906
Coastwise—						
Crude oil	390,619	55,803	620,696	88,657	9,764,227	9,680,549
Fuel oil	242,425	34,632	321,522	45,932	4,767,957	3,331,208
Diesel and gas oil	3,968	567	23,666	3,381	95,603	105,271
Gasoline	192,053	27,436	74,705	10,672	2,983,991	2,809,546
Kerosene	1,965	281	.....	.....	45,068	124,031
Tops	.....	.....	.....	.....	.....	251,082
Exports—						
Crude oil	56,496	8,071	111,156	15,879	1,400,029	1,247,945
Fuel oil	613,341	87,620	645,342	92,192	10,136,307	5,868,773
Diesel and gas oil	80,672	11,525	17,544	2,506	477,513	141,917
Gasoline	183,587	26,227	79,015	11,288	937,134	1,948,449
Tops	.....	.....	.....	.....	227,204	.....
Kerosene	49,243	8,463	75,154	10,735	1,010,174	812,203

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	415,555	565,184
Gasoline	.....	.....	78,658	11,235	890,088	608,848
Tops	.....	.....	.....	.....	.....	73,698
Lubricants	.....	.....	.....	.....	111,970	104,088
Coastwise—						
Fuel oil	38,453	5,493	119,573	17,082	2,116,946	2,199,698
Diesel and gas oil	39,416	5,631	.....	.....	173,724	.....
Gasoline	144,085	20,583	90,914	12,988	1,865,849	1,496,035
Kerosene	15,990	2,284	10,976	1,568	75,151	145,752
Exports—						
Fuel oil	40,192	5,742	73,395	10,485	793,179	974,305
Gasoline	.....	.....	66,980	9,569	1,368,702	761,886
Kerosene	.....	.....	.....	.....	510,187	698,828
Lubricants	.....	.....	.....	.....	9,120	18,061

This outpost has been carried down to 5,096 feet and the landing of a string of pipe and the erection of production tanks indicates that the company anticipates at least small production. This is believed to be the same sand found in the older section of the town lot area and for this reason no one seems to be at all enthusiastic as many are of the opinion that this hole must be an edge well in the second horizon.

Potrero District

With Seal Beach out of the way as far as excessive production is concerned, the industry will undoubtedly watch the Potrero district where the Associated has a wildcat standing suspended in an untested oil sand which is reported to have excellent possibilities of resulting in commercial production. The Associated has been killing time in this area since last November due to the inadvisability of opening up another new field for development simultaneous with work at Seal Beach. During the interim between last November and the present time, two deep dry holes have already been drilled and abandoned southeast of the Associated's initial test. One of these unsuccessful tests was drilled by the California Eastern Oil Co. and the other by the General Petroleum Corp. The latter was content to sit tight following this failure but the former immediately swung to the northwest and started work on a new hole within a short time. It is this wildcat which the industry is watching so closely at the present time as it is scheduled to reach the projected depth at which production is expected some time during the next week or 10 days. The exact depth is shown on the regular weekly list of California wildcats appearing herewith. The existence of a field at Potrero is still a matter of conjecture but operators are sure of one thing, that the Associated's geological staff will be keenly disappointed if this area proves sterile, in as much as some very promising showings have been logged. The outcome of the California Eastern's test will probably go a long way toward proving or disproving the existence of another new field at this point but one should not gain the impression that this particular wildcat if found to be dry will condemn the entire area. The Associated appears to have the cream of the acreage tied up and regardless of any other dusters drilled. these holdings will remain in status quo until actually tested out by this company. It might be well to watch developments in this section during the next two or three weeks as this particular district looks exceptionally promising and, regardless of the fact that several prominent geologists refuse to get excited over the outlook, the fact remains that it has all the earmarks of a potential field.

Building Storage

The Pan American Western passed its last dividend but, judging by the amount of work which this company is doing at the present time, future disbursements may offset any temporary omissions. This company and the Petroleum Securities, which are reported to be working on a 50-50 basis at Seal Beach, are running something like 28 to 30 strings of tools at the present time. Over at Torrance, where the Pan American has a 4,000,000-bbl. reservoir, construction work on 24 new 100,000-bbl. steel tanks is being pushed ahead as fast as possible. Three of these new containers have already been erected and the company has just started to fill the first. Pipe line connections with the company's main line were completed a few days ago and, barring any unforeseen delay in the delivery of steel, the remaining 21 new

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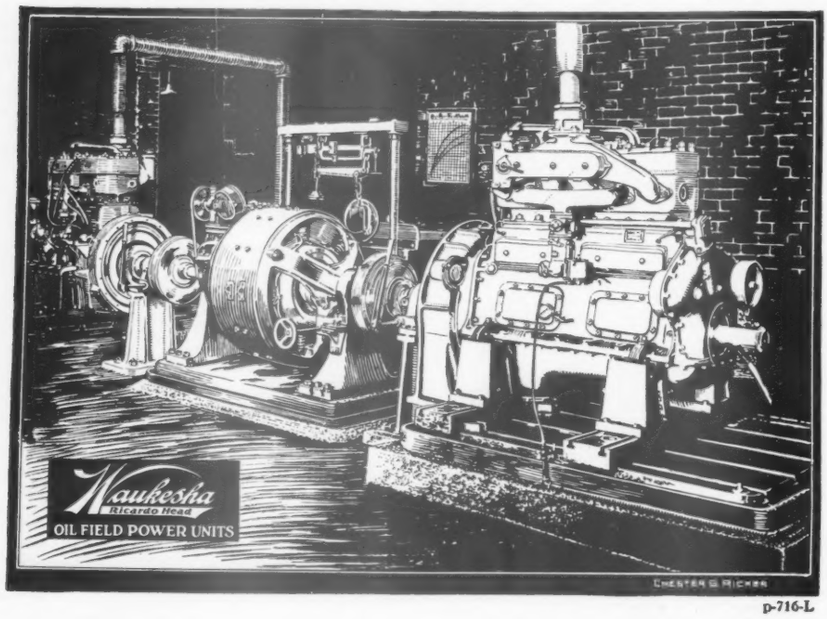

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tanks will be ready for action within the next 30 days. Foundations are already in and earthen embankments are being thrown up as fast as possible. The Pan American's tank farm at this point is located just south of the Torrance Field and in close proxmity to the site purchased a short time ago by the General Petroleum Corp. for a new refinery. The latter has not yet started construction work on its new projected plant but is expected to do so in the near future. The exact time will probably depend more or less on future conditions and the amount of crude available. This company, by the way, has a very strategic system of pipe lines and while a little difficulty is sometimes experienced in transporting San Joaquin Valley crude over the Ridge Route to Los Angeles during the cold winter months, this condition can be remedied possibly by adding several heating stations along the line. The Pan American Western and General Petroleum are the only two concerns in the state at present which have direct pipe line connections with the San Joaquin Valley and since a large part of California's future oil production must come from that section these two companies are in a very favorable position.

While commenting on new development work it might not be amiss to call attention to the fact that the Shell is making splendid progress with its new Dominguez refinery and this unit should begin partial operations within the next 60 or 90 days. This new plant is located approximately 5 miles northwest of the same company's Wilmington refinery and about 2 miles south of the Dominguez oil field where the company has substantial holdings in conjunction with the Union Oil Co. The Shell's new Dominguez refinery will be right up to the minute when completed and will be the southern terminus of the recently laid natural gas gasoline line from the prolific Ventura Avenue Field. General construction work is progressing very satisfactorily, most of the major tankage having already been completed. Ten 80,000-bbl. steel tanks were finished a short time ago and work is now going ahead on the usual quota of refierny tankage.

Tanker Situation

There has not yet been any preceptible improvement in the general tanker situation as far as California is concerned, although there seems to be a little easing up with a possibility of operators being able to charter a limited number of clean bottoms for the intercoastal trade in the near future. White boats for June and July liftings are expected to be quoted around 90 or 95 cents. The world's present tanker fleet comprising 8,750,000 deadweight tons, will soon be augmented by 142 additional vessels of 1,305,150 tons now building. Of the total number now under construction, only four are being built in the United States, three being under way at the Sun Shipbuilding Co., at Chester, Pa., and one at Kearney, N. J. One of those now under construction in the Sun plant is being built for the California Petroleum Corp. Internal combustion is dominant among the ships building, 109 being Diesel, while only 33 are steam. Of those building in foreign yards, a majority either are for American owners or for foreign subsidiaries of American companies. Possibly half of all under construction will probably visit Los Angeles Harbor soon after being put in commission.

Seal Beach

The Seal Beach Field has just closed a rather disastrous week due to gas depletion and the failure of new wells to start off with the kick which has characterized previous completions. The gas pressure has fallen off tremendously and it looks as though it will be but a matter of a short time until new producers will be coming in on the pump. Many operators are fairly stunned by the sudden turn of events as it was the general consensus of opinion that the field would probably reach 75,000 bbls. per day before declining. There are approximately 70 rilling projects within the proven limits of the town lot area which are scheduled for early completion and for this reason it is rather difficult to state definitely whether the peak has actually been reached, although such seems to be the case. These new wells will register a smaller initial production than those finished heretofore but the completion of a large number of wells within a short period of time may have a tendency to temporarily bolster up field production. The fact remains, however, that the maximum initial daily well production has already been attained and new wells from now on will show a smaller initial output.

That the Seal Beach Field is apparently definitely headed downward is evidenced by the fact that practically all of the producers in this section have shown a decided falling off during the past 10 days. The California Petroleum's No. 1 Alamitos, for instance, came in a short time ago flowing 1,500 bbls. per day. It is now making 400 bbls. No. 2 on this same lease started off at 825 bbls. and has since declined to 385 bbls. No. 3 Alamitos, an initial completion of 1,950 bbls., is at present doing 825 bbls. No. 4, the largest of the California Petroleum's recent completions, came in doing 2,150 bbls., but has declined since completion to a little better than 800 bbls. Paul Getty's three producers in the town lot area also reported to have registered substantial declines and, while the exact drop has not been announced, it is believed to have been quite severe. A check of the new wells finished at Seal Beach during the week shows that several fairly satisfactory producers were brought in. The Pan American completed No. 2-A Bryant several days ago at 4,718 feet and while it started off flowing at a good clip, 1,175 bbls. of clean 27.5 gravity oil, this is considerably smaller than the first completion on this lease which came in flowing 2,350 bbls. daily. No. 3 Alamitos has just come in and looks good for about 750 bbls. per day. This company and the Petroleum Securities, which are reported to be working on a 50-50 basis, have 28 additional wells actually under way, the greater part of which are scheduled for completion in the immediate future.

Superior Gets Producer

The Superior Oil Co. finished its first successful producer in the town lot area by bringing in No. 1 Kenkel, flowing 950 bbls. of 27.2 gravity oil daily from 4,700 feet, the oil being exceptionally clean. This company has 2 additional potential producers which should be completed within the next few days. The Marland recompleted No. 8 Bixby in the older section of the Seal Beach Field and brought in Nos. 10 and 14 on the Selover property, both of which offset the town lot area. No. 8 Bixby, the work-over, was redrilled and deepened to 4,502 feet, from which depth it was returned to production doing 1,405 bbls. of 24.1 gravity oil daily. It is a Bixby zone completion with the oil being produced through a seven-eighths-inch bean under a pressure of 800 pounds. This well was originally brought in last February flowing 1,620 bbls. from 4,410 feet. The two new wells on the Selover lease both came in under a natural flow, No. 10 being clocked at 1,520 bbls. of clean 27.1 gravity oil and No. 14 at 860 bbls. of clean 26.9 gravity oil. The former was completed at 4,776 feet while the latter was brought in from 4,775 feet. Both are flowing through seven-eighths-inch beans, the average casing pressure being 500 pounds. The Marland has several additional new wells nearing completion on the Bixby and Selover leases. The General Petroleum is having considerable trouble on the Wasem lease due to its rather unfavorable location on the structure, which practically precludes large or consistent production. No. 5, which was brought in several days ago doing 1,300 bbls., is now producing 950 bbls. daily from 4,774 feet. The output is cutting about 2 per cent water and, since this well only has about 20 feet of sand, the outlook for large ultimate recovery is not any too encouraging. No. 6 was finished at 4,783 feet and will probably be put on the beam in the near future as it did not have any kick whatever. The best it would do under a natural flow was 50 bbls. per day. It might be possible to increase production by putting the well on the beam but, judging by the cut, 25 per cent, it looks as though clean oil at this point "just aint." No. 3 Wasem looks like a water well at 4,808 feet, although this may possibly be remedied by the landing of a plug on bottom. Nos. 1 and 2 have been suspended at 4,762 feet and 4,825 feet respectively due to the unfavorable outlook. No. 4, which is being carried down for a deep test, passed the 5,000 foot level a few days ago. Nos. 8 and 9 on this lease have been temporarily suspended pending further developments.

The Cal-American Oil Co. finished No. 1 Alamitos at 4,785 feet and brought in a 1,050-bbl. flowing well, the oil being clean and testing 27.6 degrees. It is flowing through a 1⅛-inch bean under a pressure of 200 pounds on the casing and 150 pounds on the tubing. George F. Getty experienced considerable difficulty in completing his No. 1 Alamitos due to the fact that it failed to respond to swabbing and bailing operations of several days duration. The failure of this well to come in under a natural flow from 4,685 feet was quite puzzling as it is only about 500 feet north of the Pan American's No. 1 Naples, the initial completion in this area. Getty's crew set to work, however, and came to the conclusion that a combination of sand trouble and low gas pressure was retarding completion. Remedial steps were taken and within a few days it was on production flowing at the rate of 975 bbls. This well was followed into production by No. 7 Alamitos, a very satisfactory completion at 4,700 feet. This new well started off flowing 2,000 bbls. of clean 26.8 gravity oil daily but built up the following day to 2,365 bbls. without any change being made in the size of the flow nipple. George F. Getty has two more potential producers standing cemented just above the pay. The Universal Consolidated's No. 1 Wolfe was one of the last wells finished in the town lot area during the past week. This well was completed at 4,785 feet, from which depth it came in flowing 650 bbls. daily.

Huntington Beach

There were only two new wells finished in the Huntington Beach Field during the week and while several more are nearing completion it will probably be some time before they are in a position to make a bid for production. Both of the current completions were located in the town lot area. The Crudoil Co.'s No. 5 Huntington was brought in flowing 695 bbls. of clean 25.1 gravity oil daily from 4,370 feet. Newton Jackson's No. 1 Huntington failed to come in under a natural flow and as a result it was put on the beam at 3,923 feet. The initial pumping was 375 bbls. of fairly clean 24.6 gravity oil daily. The Standard has several potential producers on the Pacific Electric property which parrellels the ocean front and is running two strings of tools on Lease B just north of the town

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IMPORTANT STRIKES AT SUNBURST; SHAFER DOME WELL, UTAH, IS DRY

By F. B. Taylor
Staff Correspondent, Rocky Mountain Area

CASPER, Wyo., May 23.—In the Sunburst Field in Montana, two important strikes were made the past week. The Hannah Porter Oil Co., a local company, drilled in a producer in Section 18-34-1 good for 100 bbls. in the Ellis sand at 1,371 feet. This location is clear off the older maps of the field and is on the south slope in the third tier of sections, or over 2 miles from the old south boundary of the field that was considered to be the south line of Township 35.

Another good well was brought in on the southwest side of the field by the Kewanee Oil Co. in Section 32-35-1 that will make 75 bbls. from the Ellis sand at 1,457 feet. It is noticeable that the Hannah Porter well found the Ellis sand at a less depth than the wells nearer the central part of the Sunburst Field. This is taken to indicate there is a dome structure on the southwest which brings the sands nearer the surface.

Nine other wells were completed in the central part of the development, but these were all small pumpers and located within the defined limits.

The strike of the Dakota Montana Oil Co. reported last week has caused much interest in a possible pay in the Madison lime under the Ellis sand and the oil companies in the southwest part of Sunburst are considering drilling down several small pumpers now producing from the Ellis sand to see what the lime holds in that area. The Dakota Montana Oil Co. is going back to the No. 1 Wilson that was reported a dry hole in the Ellis and will clean out and drill this hole into the Madison lime.

Sweetgrass Wildcat

What appears to be an important strike is reported from Sweetgrass. The wildcat being drilled by S. Hart Green and others about 2 miles south of the Canadian boundary line, Section 11-37-2, and about 5 miles east of the town of Sweetgrass has a hole slowly filling with a black oil that comes from a sand believed to be the Ellis, struck at 2,335 feet. This wildcat is about 8 miles from the nearest production and in a district where a syncline was supposed to exist. The depth is much greater than the Ellis sand is found in the Sunburst Field.

Another strike in Montana that looks like a gas field is that of the Sunburst Oil & Refining Co. of Great Falls in the wildcat drilling on the Bears Den Dome north of Chester, Liberty County. A flow of gas reported to make 16,500,000 feet was found in the Sunburst sand at 1,786 feet deep. The well is to shut off this flow in order to drill to the Madison lime contact and make a test of the Ellis sand there.

In the Salt Creek Field in Wyoming, the Midwest Refining Co. completed two Lakota sand wells during the past week. In Section 26-40-79 the Wyoming Oil Fields drilled in a producer good for 576 bbls. at 2,454 feet and the Wyoming Associated Oil Co. also brought in a Lakota producer in the same section at 2,422 feet that has a production of 300 bbls.

Shafer Dome Well Dry

In Utah the oil business has reached a point where it seems to be on the down grade. The Shafer Dome well of the Utah Southern Oil Co. and the Midwest Refining Co. is a dry hole. This well has tested the Shafer Dome about 5 miles south of the Cane Creek discovery well and was drilled to 5,862 feet without finding commercial production of either oil or gas. Much was expected from the Shafer Dome and the disappointment is keen among the operators interested. The well found a sand and a heavy flow of salt water at 5,856 feet and then went into a sandy lime and stopped in this lime. The water rose 1,500 feet in the hole and it was decided to abandon the well and structure.

In San Juan County, on Cedar Mesa Dome, the Midwest and Utah Southern Oil Co. have the test at 2,725 feet and drilling in a hard gray lime. The Prommel well of the Snowden & McSweeney interests on the Cane Creek Dome is now at 2,100 feet with the objective expected around 2,640 feet.

The Elk Hills wildcat being drilled by the Midwest Refining Co. and allied interests, is at 1,378 feet, according to reports given out officially. Some scouts contend the actual depth is much greater and that the bad luck of the past weeks has merely enabled the crew to drill much

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Complete Tennessee's Largest Well

Estimated at 350 Bbls., Though Some Put It as High as 1,000 Bbls. Southwest of Celina and Tinsley Bottom

By Whit
Staff Correspondent, Kentucky-Tennessee

BURKESVILLE, Ky., May 23.—The real sensation of the Kentucky-Tennessee Field for the past several days came from the Tennessee side when Blick and others, known as the Celina Oil Co., brought in a third well on the Rad Hawkins land, on Lock Branch, in Jackson County, north of Gainesboro and southwest of the old Tinsley Bottom Field and also southwest from the Celina Field in Clay County. This well is reported to have shown better than 350 bbls. initially and some prominent operators put it at close to 1,000 bbls. initially. This is said to be the largest producer yet found in Tennessee, making the third big producer found since March on the Hawkins farm. The finding of this well may lead on to further test work clear across Tennessee, for it is known that a large number of nice looking structures are to be found to the south.

The Amory Field of Monroe County, Mississippi, was hard hit when a dry hole was struck on the Durritt lease, Section 29-13-17, at 3,072 feet.

Kentucky features were centered in the Ambrose Pool, in Ohio County, where Nos. 3 and 4 on the Rodney Taylor farm showed initial production of 175 and 200 bbls.; No. 2 Deane and Deane farm, 75 bbls., and No. 1, on the George Early farm, 115 bbls.

The week throughout the territory south of the Ohio River was one of heavy rains, sleet and winds that did great damage to crops and put the streams out of their banks. Western Kentucky is noted for its big strawberry crops, especially in the Bowling Green area of Warren and adjoining counties. the damage to the strawberries being 50 per cent of the crop.

Week's Work

The summary of the week's work in the Kentucky-Tennessee-Mississippi fields show 27 completions, 18 producers, with an initial production of 986 bbls., 6 dry holes and 3 gas wells. The wells were distributed by counties and districts as follows:

County—	Comp.	Oil Wells	Prod.	Dry	Gas
Estill	5	5	12	0	0
Ohio	4	4	565	0	0
Allen	4	4	28	0	0
Johns'n-Magoff'n	3	3	23	0	0
Floyd-Knott	3	0	0	0	3
Warren	2	0	0	2	0
Wayne	2	0	0	2	0
McCreary	1	1	8	0	0
Wolfe	1	0	0	1	0
Kentucky	25	17	636	5	3
Clay Co., Tenn.	1	1	350	0	0
Monroe Co., Miss.	1	0	0	1	0
Total	27	18	986	6	3
Last week	24	17	997	7	0
Difference	3	1	11	1	3

Tennessee

Late advice from Celina, Tenn., is that the big well belonging to Blick and others or the Celina Oil Co., came in flowing over the mast of the drilling rig and is rated better than 1,000 bbls. initially. It is known as No. 3 on the Rad Hawkins farm, on Lock Branch, north of Gainesboro, on the Cumberland River, in Jackson County. This is the third successful strike made by these operators who own possibly the three largest wells ever drilled in the State. Two additional wells have been started and the same parties have contracted for an extensive drilling campaign in that section. These three big wells are to the southwest of the good production in the Mill Creek Field of Clay County, also southwest of the old Tinsley Bottom Pool, where a few years ago the Dafoe interests brought in some excellent producers which have since passed away, the oil being taken from the sand by setting the working barrels at a point below the pay sand, not allowing the sand to be kept moist, at least that is the report of parties that visited the field during its big production. The Tinsley Bottom property is now in the hands of Cleveland, Ohio, parties and there are many more inside locations yet to drill upon the big block, as most of the wells were located on the outer edge of the structure. Tinsley Bottom may yet produce a large amount of crude.

The Chicago Petroleum Syndicate, (a subsidiary of the Potter Palmer estate of Chicago) is drilling a well on the Clay County Poor farm, about a half mile east of the Barlow Langford farm, in the McClurkin Pool on Mill Creek. This company controls a large block of leases in that vicinity and is understood to have arranged for the drilling of several test wells. This company owns the Gunether-Gant lease in the Swope Pool, in Ohio County, Kentucky, which proved a big producer.

The Cumberland Valley Oil Co., of Hopkinsville, Ky., is drilling its second well on Barlow Langford No. 3 tract, on Mill Creek, in Clay County.

John H. McClurkin is drilling at last report around 325 feet on his wildcat on the Doctor Tucker farm at Long Fork Creek near Red Boiling Springs. This well is developing into an expensive one, owing to the finding of 19 heavy pockets of gas, and the drilling tools have been blown high into the air three times and considerable loss has been occasioned by the damage due to the high gas pressure. Mr. McClurkin has also started a rig to his location near Hermitage Springs in the western end of Clay County. J. W. Young and others of Fayetteville, Tenn., have moved a rig on the Ben Bailey farm, near the mouth of Mill Creek, and will drill several tests on their holdings in that district. Celina is crowded with oil men and lease operators from the northern fields and many deals are pending for oil properties and contracts are being let for tests in every direction. It is understood several new drilling rigs are en route to Clay County and oil field material is being stored for future use.

In the Blick well on the Rad Hawkins farm there was 70 feet of pay sand encountered and the heavy gas pressure blew the tools from the hole, wrecking the walking beam of the rig and doing other damage, which was repaired as soon as the work could be done. Bill Smith, the driller, had a narrow escape from injury as did Mr. Blick, one of the owners.

Mississippi

F. N. Henderson has this to say in a report on Mississippi developments:

The Quincy Oil Co., on the Durrett land in Section 29-13-17, Monroe County, was abandoned this week at 3,075 feet after encountering a strong flow of salt water. The test of the Natural Gas & Fuel Corp., on the Rye farm, in Section 22-15-17, is in rock at 970 feet. The Sutton test, on the Acker farm, Section 25-13-19, resumed operations after waiting 10 days for 10-inch casing. Two tests of the Amory Petroleum Co. are drilling; the Hall farm well, in Section 8-13-17, is down 2,260 feet in shale, and the Nancy Carter Dill, in Section 12-13-18, is down 1,110 feet. Same company has built a derrick for a test on the Evans land, Section 16-10-10, in Itawamba County. Ewing and McAlphin have ordered a derrick for a test in this county, near Hopewell. The Buffalo Oil & Gas Co.'s test, on the Crook land, Section 4-13-18, Monroe County, resumed operations after waiting two weeks for repairs.

The Amory Natural Gas Co. turned on the gas last week for local consumers at Amory, Monroe County, and is now laying a line to Aberdeen to supply natural gas to the county seat of Monroe County.

Several new locations have been announced with prospects bright for continued activity regardless of some disappointments on account of the failure of the Quincy test. Most of the oil men regard this test too far east.

In Jefferson County, in the southwestern part of the State, the Bassfield Oil Co. has spudded in for a test on the Burkett land in Section 11-6n-18w. This company has a large block of acreage under lease and expects to go 4,000 feet if necessary. This operation is in charge of Wright & Willis, two operators from Camden, Ark.

Eastern Kentucky

Oil wells over the eastern half of Kentucky were only light pumpers, and well scattered over a wide territory, while at least three nice gas producers were uncovered in the Beaver sand area of Floyd County, where the Eastern Carbon Black Co. drilled in a well reported at 3,000,000 feet, and in District 21. The United Carbon Black Co. also struck an excellent gas producer in the same district in a test on the Frank Gearhart farm, and the Ivyton Oil & Gas Co. has a good gasser at a test on the Green Howard farm, same area.

In District 3, of McCreary County, the Pigeon Rock Oil Co.'s late well on the Stearns Lumber Co. lease, produced an initial of 8 bbls.

In District 27, of Johnson-Magoffin Counties, the Model Oil Co.'s No. 2 on the J. J. Prater farm, is a 3-bbl. pumper. In District 29, same field, the Somerset Oil Co.'s No. 15 James Love farm, showed 10 bbls. initial production. In District 31, the Bed Rock Petroleum Co.'s No. 27, on the J. H. Arnett farm, is a 10-bbl. pumper.

In Wolfe County, District 30, the Hillside Oil Co.'s test, on the Granville Spencer farm, was a dry hole.

In Estill County, District 8, five new completions were reported, all very light pumper. The Superior Oil Corp.'s No. 12 J. D. Alexander farm, and No. 8 A. F. West and others farm, pumped 2 bbls. each, while No. 13, on the Green Campbell farm, pumped 1 bbl. Brenner and Adams' No. 8 Kate Sawyer farm, pumped 2 bbls., and the Wood Oil Co.'s No. 8 S. M. Maple farm, is a 5-bbl. pumper. No. 9 same farm, is drilling.

In Wayne County, District 5, the Davy Oil Co.'s No. 6, on the O. E. Gregory farm, is a duster. In District 13, same county, the Superior Oil Corp. drilled a duster at No. 1 on the Coyle heirs farm.

Williamson & Caywood are drilling No. 5 on the John P. Fraley farm, District 18, of Lee-Owsley Counties. The Lewis Oil Corp. is drilling No. 3 on the Kentucky Block Cannel Coal property, district 6, in Morgan County. Cooper & Sublet are drilling No. 4 on the F. M. Hale farm, District 29, of Johnson-Magoffin Counties. Hupp, Duff and others are drilling No. 2 on the Riggs Bailey farm, District 31, same field.

Western Kentucky

Little comes from the Glasgow Field, in Barren County, and the Ohio County Field is taking the lead in the western

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THREE CENTRAL WEST COMPLETIONS MAKE WEEK'S TOTAL ONLY 136 BBLS.

By Whit

FINDLAY, Ohio, May 21.—Heavy rains brought about one of the worst weeks experienced in the Central West Field for many months, there being but 10 completions reported in the Lima, Central Ohio, Indiana and Illinois Fields, of which six were dry holes.

Weather conditions alone are responsible for the small number of wells brought in, for operators are anxious to keep drilling new wells, so as to maintain their production near normal and they find that hard to do, especially where the small producers are found.

The only two wells of note the past several days, were found in the Illinois Field, one in the Martinsville Field of Clark County, with an initial of 65 bbls. and the other in the Lawrence County Field, good for 70 bbls. The Lima Field is credited with one well which produced only 1 bbl. initial, while Indiana had three dusters and Central Ohio Field two dry holes and one light gas well.

Just at this time more activity in new work is noticeable in the Central Ohio area, owing to the gas development of that part of the Central West. Some nice oil producers are found from time to time in the shallow Berea sand as well as in the deep Clinton sand, to say nothing of the good Niagara Limestone formation wells found in Guernsey County, just outside the Central Ohio Field proper.

Lima Field

The only completion for the week in the old Lima Field of northwestern Ohio was made by T. G. Ayres in a second test, 1,300 feet from the north line and 300 from the west line of the S. and J. Hoenie farm, in the NW of Section 26, Hopewell Township, Mercer County. Top of Trenton was found at 1,112 feet and drilled 50 feet in the sand, producing but 1 bbl. the first 24 hours. There are not over 15 strings of tools running in the Lima Field and some are shut down on account of the mud and water.

Citizens of Findlay and Hancock County in general are much elated over the gift of the heirs of the late J. C. Donnell, a recreation field for Findlay. The heirs are his son Otto D. Donnell, and the latter's three sons, James C., John R. and Dewey. It was explained to the school board that the heirs wish to give the field to carry out the plans which Mr. Donnell had considered before his death. The field will adjoin the Junior High School site which Mr. Donnell gave. The school is named for him. Grading work will be done this year. A football gridiron is included in the plans.

Bert Rinehart is drilling a well on his property near Beagle, south of Findlay, in Hancock County and between Findlay and Arlington for gas and its location is in territory that has long been looked upon as probable gas with fair prospects of oil.

Sandusky County

Gibsonburg and Woodville, two of the well known oil towns of Sandusky County and some 26 miles southeast of

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Hocking County Has Best Completions

Washington Township Well Produces 168 Bbls. First 24 Hours. Another Makes 95 Bbls. and Third 30 Bbls.

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., May 23.—In the eastern fields fewer wells were completed the total for the week being 29 compared to 39 for the preceding week, and production much less. New production was 367 bbls. compared with 488 bbls. Yet there were only 6 dry holes, compared with 12. Operators hesitate to push drilling programs in the face of record overproduction and low prices. Several wells have been drilled to the top of the sands and are waiting orders for completion.

The best well of the week was probably a gas well, for gas wells are no longer stepchildren. On the waters of the Kanawha River, Center district, Calhoun County, W. H. Bickel completed his test on the Betts heirs farm to the Keener sand. It is good for 1,500,000 feet. It is located about 1 mile northeast of the L. B. Carrol No. 6.

Hocking County, southeastern Ohio, has been the scene of the best completions in the eastern fields for some months. It added to its long list of good producers the Rauber Oil Co.'s No. 4 in the northwest quarter, Section 13, on the Emily Thrush farm, Washington Township. It was drilled to the Clinton, a depth of 2,950 feet, and produced 168 bbls. the first 24 hours after shot.

Another good well was completed by the Preston Oil Co. on the W. W. Marks farm, in the northwest quarter, Section 13, Washington Township, Hocking County. It was drilled to the Clinton sand, a depth of 2,953 feet, and produced 95 bbls. the first 24 hours after shot. In Hocking County, again, the Kachelmacher estate completed No. 25 on the James J Tracey estate farm, northwest quarter, Section 24, Ward Township, to the Clinton sand, a depth of 3,501 feet, and have a 30-bbl. producer.

Licking County

But slightly behind Hocking County, in the total of good completions, Licking County increased its total by the test well of the Frampton Oil Co. on the William Phillips farm, in the village of Perryton, Perry Township, which was drilled to the Clinton at 2,940 feet. It produced 42 bbls. the first 24 hours after shot. In Section 9, Licking Township, Licking County, Norpell and Patten completed their No. 1 on the T. C. Jury farm, to the Big lime, at 2,336 feet, and have a gasser estimated at 260,000 feet.

The Leonard Oil & Gas Co. completed two wells to the Berea grit on the Myers heirs farm, Fallsbury Township, Licking County. No. 16 produced 12 bbls. the first 24 hours after shot, and No. 17 is good for 8 bbls. The depth of these wells is about 715 feet.

In Section 21, Fallsbury Township, Licking County, on the Joseph Chaney farm, Shaffer and others completed No. 11 to the Berea grit at 720 feet and have a 5-bbl. producer.

In Lot 22, Newton Township, Licking County, C. R. Settles and others completed No. 2 on the Luther Long farm to the Berea and have a 5-bbl. producer. In the same township and county, the North Fork Oil Co. completed its No. 2 on the James Dash farm, Lot 18, to the Berea and has a 3-bbl. producer.

Athens County Deep Test Dry

An interesting completion was that of the Wehrle Stove Co.'s test on the Peter L. Fagan farm, Section 32, Canaan Township, Athens County. This well was drilled to the Clinton, 4,442 feet, and is dry.

In Alexadner Township, Section 22, Athens County, the Biddle Oil Co. completed No. 8 on the John F. Biddle heirs farm to the grit, at 1,315 feet, and after shot, it produced 8 bbls. the first 24 hours. In Athens County, again, southeast quarter, Section 12, Trimble Township, the Glouster Oil & Gas Co. completed its No. 1 on the William Richards farm to the Berea, at 1,042 feet, and it produced 8 bbls. the first 24 hours after shot.

Late completions in southeast Ohio, include three wells in Washington County. In the southwest corner of Section 21, on the James Ewers farm, Grandview Township, the Reno Oil Co. completed its test to the Squaw sand, a depth of 1,725 feet. It is a gasser good for 400,000 feet.

Two Shallow Wells

At a depth of 175 feet to the Buell Run sand, L. H. Phillips and others completed their test on the C. C. Wharton farm, southeast quarter, Section 16, Aurelius Township, Washington County, and have a one-quarter barrel producer. On the same farm, L. H. Phillips and others completed their No. 2 at a depth of 200 feet and have a one-half-barrel producer.

Dusters in Washington County

In Section 53, Salem Township, Washington County, the Hope Oil Co. completed its No. 2 on the D. W. Schramm and others farm to the Macksburg 500, a depth of 810 feet, and it is dry. In the same county, Aurelius Township, Beeson and Athey completed their No. 2 on the Fred Dixon farm to the Macksburg 500, at 1,000 feet, and it is dry. In Section 12, Muskingum Township, Washington County, Lewis Lawrence completed his test, No. 1, on the Lewis Lawrence farm to the Macksburg 500, at 1,050 feet, and it is also dry.

In Millcreek Township, Coshocton County, the Fender Oil Co. completed No. 4 on the Peter Fender farm to the Berea grit, a depth of 845 feet. After shot, it produced 8 bbls. the first 24 hours.

In Section 35, Mill Township, Tuscarawas County, the Stillwater Oil & Gas Co. completed the No. 4 F. A. Morrison to the Berea, at 1,175 feet and has a 3-bbl. producer.

Dry Hole in Knox County

In the northeast quarter of Section 19, on the C. C. Conrad farm, Jackson Township, Knox County, the Whitmore Property trustees completed their test to the Clinton sand, at 3,030 feet. It is dry and plugged.

In Section 7, Lawrence Township, Washington County, George T. Gale and others have started to drill their test on the J. H. Alexander farm.

West Virginia

The best oil well completed for the week in West Virginia was in Batelle district, Monongalia County. There, the Pittsburgh & West Virginia Gas Co. completed its test on the Perry Kenneday farm at 3,294 feet. It is producing 20 bbls. a day and is still being tested.

At the close of the week, the South Penn Oil Co. drilled in No. 57 on the O. D. Stockley farm, Geary district, Roane County, to the Injun sand and has a gasser estimated at 1,000,000 feet.

On the waters of Macfarlan Creek, Murphy district, Ritchie County, the Hope Natural Gas Co. completed its No. 1 on the Noah Jordan farm to the Injun sand and has a 3-bbl. producer. In Center district, Gilmer County, the Carnegie Natural Gas Co. completed No. 3 at 1,536 feet on the F. N. Miller farm and has a gasser. The Hope Construction & Refining Co. completed its well on the Okey Parsons farm, Sherman district, Calhoun County, to a depth of 2,275 feet and has a gasser.

Fair Gassers Completed

In Clay district, Wetzel County, the Chesebrough Manufacturing Co. completed No. 1 on the L. F. Burley farm at 1,825 feet and has a gasser estimated at 800,000 feet. In Union district, Clay County, A. G. Womock and others completed No. 1 on the W. H. Odell farm to the Big Injun and after shot, it is estimated a gasser good for 500,000 feet. In Henry district, Clay County, the South Penn Oil Co. completed No. 1 on the Virginia Bett farm to the Salt sand, a gasser estimated at 250,000 feet.

On the waters of MacFarlan Creek, Murphy district, Ritchie County, the South Penn Oil Co. completed No. 6 on the Anna M. Wilson farm to the gas sand, a 15-bbl. producer.

On the waters of Walnut Fork, McElroy district, Tyler County, the Manufacturers Light & Heat Co. completed No. 1 on the Nelson Lemaster farm to the Injun sand, at 1,883 feet and has a gasser good for 300,000 feet.

The South Penn Oil Co. completed No. 9 on the George Albright farm, Walker district, Wood County, to the Berea grit and has a producer showing for 5 bbls. a day. In Spencer district, Roane County, on the waters of Little Rock Creek, the Federal Oil Co. completed its No. 38 Roberts, Pell and Newman to the Salt sand and after shot, it is showing for a 10-bbl. producer.

Test Shows Dry

The King Oil Co. completed its test on the Alexander White farm, about 3½ miles north of production and on the headwaters of Trace Fork of Hollywood Creek, Geary district, Roane County. It was drilled to the Squaw sand and is dry.

Two More Dusters

Fetty and Anderson completed their test on the James Vaughn farm, Clay district, Wood County, to the Berea, a depth of 2,170 feet and it is dry and was abandoned. In Sherman district, Boone County, the Owens Bottle Co. completed No. 12 on the Peyton Coal Co. property to 3,000 feet and it is dry.

The Federal Oil Co. drilled its well on the Provident Mining Co. lease, Spencer district, Roane County, to a depth of 1,348 feet and has a light gasser.

Drilling Tests—Harrison County

Orlando West is clearing a location for a test on the Charles Lanham farm, Ten Mile district, Harrison County. In the same county, and district, the Carson Oil Co. has a location ready for No. 3 on the J. W. Harbert farm, and the Aizpurn Oil Co. has a rig standing for No. 2 on the Patrick Doolan farm.

Boone County

The Pittsburgh & West Virginia Gas Co. has completed a road for their test on the T. E. B. Seiler farm, Peytona district, Boone County. In the same district and county, the Yawkey Oil & Gas Co. is getting ready for its test on the Pon Fork Coal Co. property. The Owens Bottle Co. has completed the rig for its test on the Marshall Brown farm, Crook district, Boone County.

The Ohio Fuel Oil Co. has rigged up for No. 1 on the P. and M. E. Reed farm, Henry district, Clay County.

Kanawha County

The Queen Shoals Oil & Gas Co. has a rig standing for No. 1 on the D. B. Snider farm, Big Sandy district, Kanawha County. In the same county, Elk

(Continued on Page 148)

RENEWING OPERATIONS IN SAGINAW, DISCOVERERS LEADING THE WAY

By Whit
Staff Correspondent, Michigan Fields

SAGINAW, Mich., May 21.—Development work is being rushed in the Saginaw Field, and improving from day to day since the announcement that the Standard Oil Co. of Indiana would install a refining plant at Saginaw. Drilling operations will be resumed on a large scale by the Saginaw Prospecting Co., the discoverer of the rich pool, during the next few weeks after nearly a complete shut down for a time, President James C. Graves of the company announced. Within the next month the company plans to have 10 or a dozen strings of tools in operation again. Plans of the Standard Oil Co. of Indiana to build a refinery in Saginaw and hopes that the crude market may show improvement are largely responsible for the resumption of drilling, Mr. Graves announced.

It can be figured that other companies will also increase their drilling activities, especially on acreage territory within present defined limits of the field, outside of the town lot development. Such companies as the Ohio Fuel Oil Corp., the Ohio Oil Co., Fordney Petroleum Co., Superior Oil Co, Bliss Petroleum Co., Sun Oil Co. and others, are among the active list of the field at this time.

There have been seven new wells reported completed since the last survey of the field and all are producers, some small and others of the average size of the field.

The Sun Oil Co.'s No. 2 on the Louis Voight farm, in the NW SE Section 10, Saginaw Township, and within the pool proper, east of the Fred Engle farm and north of the Shattuck road, struck the top of the Berea sand at 1,844 feet, drilled 16½ feet in the sand and shot with 60 quarts, it is estimated at 10 bbls., initial production. Same company's No. 1 on the George Kuck farm, in the E SE NW Section 10, got the top of the Berea at 1,851 feet and went 16 feet in the sand, showing for 3 bbls. Same company's No. 7 on the John Schoenteit farm, in the N half SE, Section 10, tapped the sand at 1,828 feet, drilled 16 feet in and, shot with 60 quarts, is showing for 15 bbls. initial.

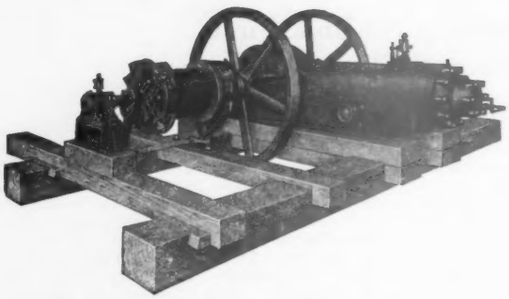
Fordney Petroleum Co.'s No. 1 on the Oakland Vinegar & Pickle Co., on North Water Street, on the east side of the Saginaw River, got the Berea top at 1,804 feet and drilled 19 feet in the sand, shooting with 80 quarts, is showing for better than 25 bbls. initial.

J. & S. Development Co.'s No. 1 on a community lease on Clark Street, east of Michigan Avenue, at 19 feet in the Berea, is reported showing for 20 bbls. initial.

The Ohio Fuel Corp.'s No. 4, on the Fisher farm, in the SE Section 10, that was dry in the Saginaw sand, should make a 5-bbl. or better pumper from the Berea sand.

W. M. Bradley & Son drilled in their No. 1 on the Clarence Clark property at Clark and Hanchett Streets, topping the

(Continued on Page 147)

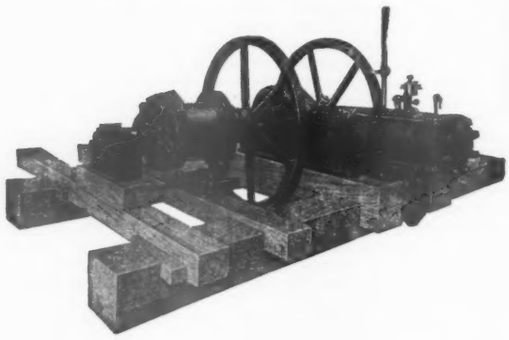


Oil Drilling Engine

For Mid-Continent and Western Service $3700. Eastern Service $2600 and $3350. F.O.B. Factory.

Gas Drilling Engine

For Mid-Continent and Western Service, $1725 and $2150. Eastern Service $1450 and $1725. F.O.B. Factory.



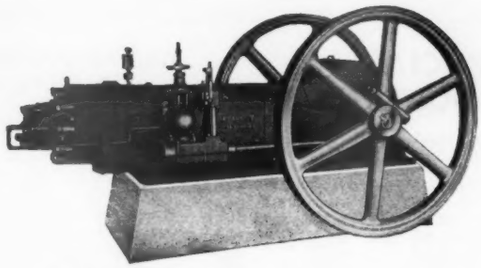
For Drilling

On the Twin State's wildcatter at Stillwater, Texas, W. J. Bradley, Driller, put down 500 feet of 24-inch hole in seven days drilling with a Franklin Valveless Oil Drilling Engine. The cost was $2.50 per day for water and the same for fuel oil—a saving of $30.00 per day over his previous experience with steam.

Show a drilling contractor a power plant that will drill more hole at a lower cost and with less trouble and he's "sold." That's exactly what Franklin Valveless Oil and Gas Drilling Engines are doing in fields, where steam, until recently, was the favorite.

The fuel bill for a Franklin Valveless is actually less than that of a Ford automobile. Repair bills are cut to a minimum—many Franklin engines have drilled from 10 to 30 wells without a cent spent for repairs. 100 barrels of water will cool the engine and mix mud for approximately 1000 feet of hole. Try a Franklin for results and economy!

FRANKLIN VALVE

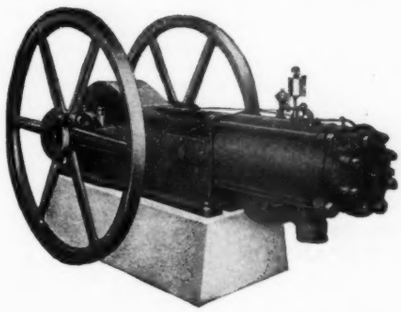


Oil Pumping Engine

In horsepowers of 30-40-50 and 75. Can be equipped with reverse motor and one way clutch.

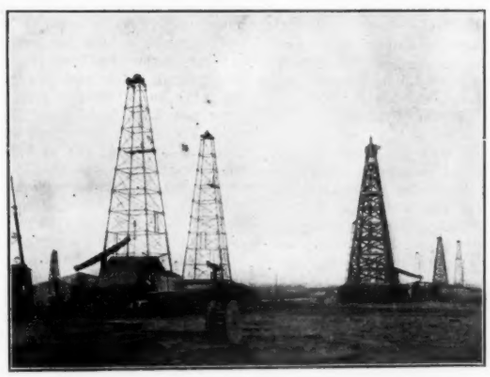
Gas Pumping Engine

Can be mounted on same block as the Gas Drilling Engine without changing a single bolt.



For Pumping

These dependable, flexible Franklin Pumping Engines are making a name for themselves wherever used. Do your drilling with a Franklin Valveless Drilling Engine. When ready for the pumps move in a lighter Franklin if you have a new hole for the drilling engine to work on. It's one sure way to reduce operating costs.



Just because Franklin Pumping Engines are light and economical don't get the idea that they aren't powerful. T. B. Slick has seven 40 H.P. Franklins at Tonkawa, Okla. Four of them have been used continuously on swabbing jobs for the past year. Mr. Slick reports "no trouble, no repairs to date."

FRANKLIN VALVELESS ENGINE CO.
Franklin, Pennsylvania

Oil Well Supply Company
Sole Distributor

LESS ENGINES

Natural Gas Developments

ANDREWS STEEL CO. ENTERTAINS GAS MEN

A feature of the entertainment of the Natural Gas Association of America during the Cincinnati meeting was the old-time Kentucky barbecue given in honor of the gas and supply men by the Andrews Steel Co., of Newport, Ky. The event was staged 9 miles west of Cincinnati on the Kentucky side of the Ohio River, in a rustic pavilion located in a grove of trees on the grounds of a fine old Kentucky mansion.

Joe B. Andrews, the host of the occasion, was assisted by Lieutenant Governor Denhardt of Kentucky and A. W. Hubbard, P. C. Regan and Harry Walker of the Andrews Steel Co. The number served was 300, all of whom were delighted with the happy thought and hospitality of their Kentucky friends.

TO SPEND $30,000,000 ON U. G. I. EXPANSION

Probable expenditure of $30,000,000 for improvement of properties and expansion of business during the year has been announced by Arthur W. Thompson, president of the United Gas Improvement Co., before the annual meeting of stockholders.

Commenting upon the improvement program, Mr. Thompson said the stockholders, at a special session to be called in the near future, will be asked to vest in the board of directors the power to acquire and consolidate properties in other states by exchange of stock.

"To keep abreast of the times and continue the technical work of production, expansion and management, it is necessary to have available large sums of money for purposes of enlarging properties and acquiring properties which fit in with those already held," he stated.

GAS LINE TO AMORY

AMORY, Miss., May 21.—The Amory Natural Gas Co. has completed its 6-inch line into Amory from the Amory Petroleum Co.'s wildcat gas well, No. 1 Carter, Section 7-31s-17w, Monroe County, 8 miles east of here and has turned the gas into this city's new distribution system. The company also has started laying a line to Aberdeen, the county seat. At present the discovery well is the only producer, it making around 2,000,000 feet of gas daily.

GAS FOR GONZALES, TEX.

GONZALES, Tex., May 21.—September 1, 1927, is the probable date set for the introduction of natural gas into Gonzales for commercial and domestic purposes. The Southwest Gas Co. of Houston has a crew at work surveying the route for a pipe line into Gonzales, and construction work will start within a fortnight. In addition to supplying Gonzales with natural gas, Yoakum and Cuero will also be served.

WASKOM LINE TO DALLAS

SHREVEPORT, La., May 21.—Construction of the 16-inch gas line being built by the Magnolia Gas Co. from the Waskom gas field in East Texas to Dallas is expected to be completed within 60 days. Work is being rushed from both ends and only a comparatively small gap remains to be completed.

GAS FOR GIBSLAND, LA.

SHREVEPORT, La., May 21.—Belchic & Laskey, Shreveport operators, are laying a gas line into Gibsland, La., to supply that town with domestic and industrial fuel from the Shongaloo Field.

SELLING GAS FOR COMMERCIAL AND SMALL INDUSTRIAL USES

By Henry O. Loebell*

Vice President and General Manager, Combustion Utilities Corp.

This paper deals with the sales problems which natural gas distributing companies have in selling gas to those industrial customers who do not use it in competition with cheap coal or oil for purposes such as boiler plants, cement or brick kilns, etc. If you have an unlimited supply of gas and can sell it at a price per million B.t.u.s equal to coal or oil you have no sales problem. The class considered, covers all heating operations for heat treatment of metals, metal melting, ceramics and foodstuffs—in general those industries where natural gas has in addition to its B.t.u. value a form value which makes it the ideal industrial fuel. Taken separately, this class uses very substantial quantities of gas with load factor ranging from 40 to 100 per cent and in the aggregate represents a very large per cent of the potential business in any community.

Because this type of load can usually be obtained on a basis of better rates than dump load it brings in larger net revenues per meter and per dollar of invested capital.

The problem, therefore, is how can we secure this class of business most economically and retain it on our lines?

Conditions Today

Regardless of whether you have ample supplies of gas and are looking for new markets or whether you have a decreasing supply and are, therefore, considering the problem of supplying mixed gases at higher rates, you have traditions that create sales resistance and add to your selling problem.

First is the tradition that natural gas is a cheap fuel and regardless of its B.t.u. value it should sell for a lower price per 1,000 cubic feet than artificial gas. Those who have not been educated by using artificial gas at higher rates do not recognize values they have not had to pay for.

Partly responsible for this is a second tradition of inefficient utilization of natural gas. Its very cheapness has not encouraged economy. Lacking the necessity for economy there has not developed the understanding and experience in its control and utilization in properly designed equipment.

The man who sticks a crude pipe burner into the fire box of a coal-fired furnace all too often will credit gas with no greater values than he himself has been able to develop under these most unfavorable circumstances. When he goes into the market for furnaces he is inclined to accept his own experience as a standard for gas-fired furnace performance and compare it with a furnace of the most modern design utilizing some other type of fuel.

Because you have been supplying a cheap fuel by comparison, utilization economics have not been important and consequently you have not found it necessary to educate the manufacturer who was not using the best equipment. Now as rates increase, as the manufacturer raises his heating specifications, you must begin to educate him to an understanding of the values which go far beyond his own experience.

A third tradition is lack of continuity of supply. In industry continuity of operation is paramount. One interruption in service will destroy the good results of months of sales work and creditable performance. This tradition is exaggerated by gas rates which penalize a manufacturer for increased consumption.

Management should carefully balance its new business activities against its ability to supply the consumption and demands sold. Load factors and peak loads should be most carefully analyzed and controlled.

Sales Problem

These traditions determine the prejudices of your buyers. Now consider in more detail the buyer's viewpoint. **The plant manager or superintendent is rarely interested in gas as a fuel, neither is he interested in one of our gas-fired furnaces as a piece of equipment. He wants to know how he can produce a certain quality of work, how he can reduce costs, how he can increase capacities. Your gas and our furnaces are a means to that end.** If he has a gas-fired furnace and a salesman shows him how he can improve his existing situation by installing an electric or oil-fired furnace he usually does not spend much time trying to figure out why his gas-fired furnace cannot do the same thing. The more inefficient his present furnace and the greater the saving offered, the less time he is liable to spend on such an analysis.

If, on the other hand, he is in the market for furnaces he generally compares the results obtainable on one furnace with another. **The selling effort must bring into the picture not only his fuel and a furnace to properly utilize it, but a knowledge and experience which shows how that combination fits into the superintendent's plant layout and meets the metallurgist's or the chemist's specifications.**

Engineering Service

In the execution of the engineering portion of your sales program you have the choice of two general viewpoints. You can either endeavor to build your own furnace, develop your own experts, or you can look to the equipment manufacturer for a major part of this contribution. This function of supplying engineering service is one of the most important in any industrial gas sales plan.

It not only is contrary to the interest of the gas industry as a whole for a gas company to attempt to build its own equipment, but it is also difficult for the reason that in most cases the equipment interpretation of a fuel involves not only a knowledge of the fuel and its combustion, but also a detailed knowledge of the process to which it should be applied. The man who sells gas in a steel mill must know as much or more about steel mill practice than the man to whom he is selling the equipment, **because in the end you are going to take a contract to make an improvement which they have not been able to make.** If you sell gas for the burning of brick you need a ceramic expert and so on through each of the different types of industries. It is difficult for any one company to maintain this corps of experts for the prospects in their particular locality and even if you obtain them it will be necessary for them to maintain contacts over a much greater territory than your locality in order to keep in touch with the developments in the particular processes.

The equipment manufacturer is the logical one to supply most of this service. There are so many viewpoints that are based on erroneous analysis that one of the most difficult things we have to deal with today is equipment manufacturers establishing an understanding and relationship with the gas companies which will serve as a sound basis of cooperation.

*Before Natural Gas Association of America, Cincinnati, Ohio.

GAS PIPING PROBLEM IN CHEYENNE SYSTEM

CASPER, Wyo., May 21.—The Cheyenne Light, Fuel & Power Co., a subsidiary of the Cities Service Co., has an odd problem in servicing natural gas to its customers. This gas comes from the Fort Collins Field in Colorado after having been passed through a compressor plant where the gasoline content is removed. The city service mains in Cheyenne were laid with cast iron pipe many years ago and were used up to about a year ago for manufactured gas. As the city mains are all low pressure, the bell joints of the cast iron pipe were caulked and as the coal gas or manufactured gas carried much water that condensed, the inside of the mains were kept moist.

Now the natural gas is dry after leaving the compressors at Fort Collins and this has caused a general drying out of the joints in the distribution system at Cheyenne. The joints that have been kept in a wet state for many years are now dried out by the natural gas so that nearly every joint in the city's mains is leaking. Effort have been made to make the natural gas carry water but these have failed and the only remedy is to dig up every joint and place a rubber gasket and clamps around it. The joints are 12 feet long and this will mean a very heavy expenditure when the city's pavements must be cut every 12 feet, besides the cost of digging holes and the material used. It is estimated that the cost will run about $50,000 and consume a year's time.

TO RATIFY N. G. A.-A. G. A. UNION

The members of the Natural Gas Association having voted unanimously for amalgamation with the American Gas Association, all that is necessary to complete the negotiations is formal ratification by the executive board of the latter organization, which will take place on June 3 in Atlantic City, N. J. This will bring into one national organization both branches of the gas industry in the United States. The consolidated membership will consist of 650 operating companies, 450 manufacturing companies and 5,400 individuals. The total annual output of natural and manufactured gas companies is approximately 1,500,000,000,000 cubic feet. Customers total 14,230,000, and the population reached with gas is 71,000,000.

STATE RIGHT TO TAX NATURAL GAS SALES

In the case of the Hope Natural Gas Co. vs. Grant P. Hall, State Tax commissioner et al, No. 815, the United States Supreme Court affirmed the decision of the Supreme Court of Appeals of the State of West Virginia upholding the constitutionality of a state excise tax on gross sales of natural gas, among other commodities. The statute as applied by the state officers and under its authority, it was stated, was not a tax upon interstate commerce.

GAS FOR TEMPLE

TEMPLE, Tex., May 21.—Installing of natural gas in this city, use of which will be available this fall and winter, was assured Temple when a total of 1,728 consumers with deposits of $10 each was brought to headquarters.

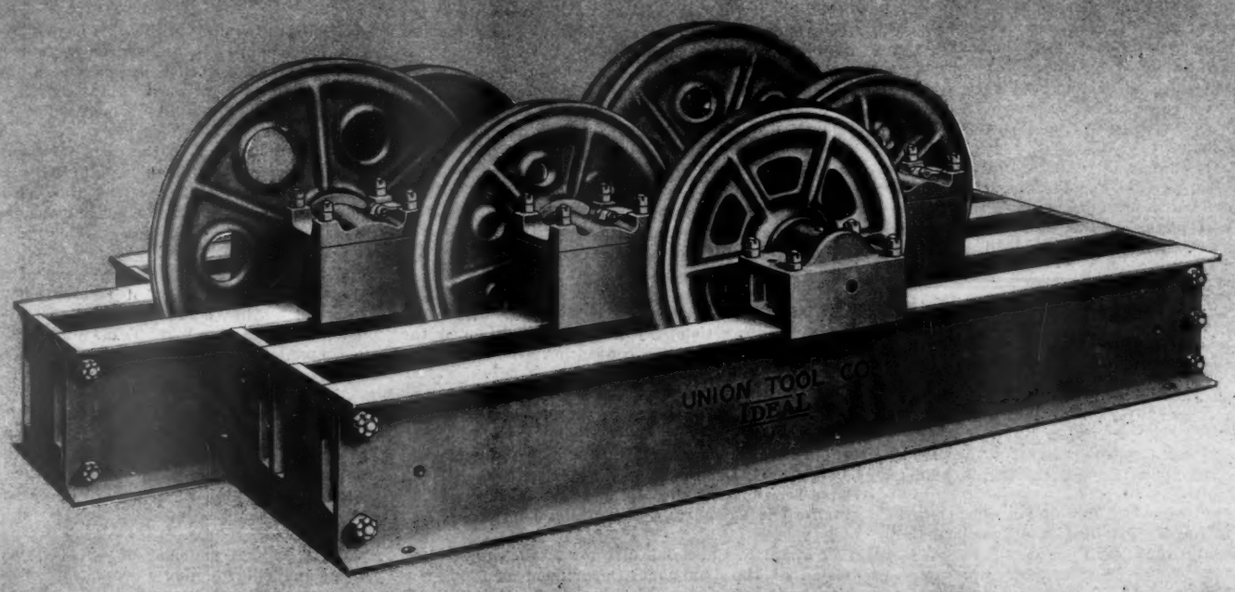
The quota was 1,600 to be obtained by June 1. In a telegram from Chester L. May, general superintendent of the Community Natural Gas Co. of Dallas, the Chamber of Commerce was advised that the work on a natural gas plant and the laying of pipe will begin the week of June 5.

IDEAL

CROWN BLOCK

Type "CA"

THE NATIONAL SUPPLY COMPANIES



MEN KNOWN IN OILDOM

S. R. Gilland

Sam R. Gilland, district superintendent for the Roxana Petroleum Corporation in the Tonkawa and Garber districts of Oklahoma, entered the Montpelier, Ind., oil field at the age of 17 and spent eight years as roustabout, pumper, and tooldresser before he harkened to the call of Oklahoma and entered the "Sooner" State simultaneously with the development of the famous Glenn Pool.

His first work in Oklahoma was as roustabout for Frank Gillespie near Watkins Station, and within 30 days of his entry on the Gillespie payroll, the Gypsy Oil Company purchased the property and he began a service which was to last two years under the Gulf banner. At the end of that time Mr. Gilland went with The Texas Company under the late Col. C. R. Wilson with whom he was identified for four years.

In 1913 he went to Texas for the Magnolia Petroleum Company and when the Magnolia bought out the Fortuna Oil Company he was transferred to Oklahoma again, and landed at Yale. A year later he became district superintendent for the Roxana Petroleum Corporation in the Cushing Field, and under his direction the famous Yarhola lease, which placed the Roxana in the list of prominent oil producers, was drilled and developed.

When the Marland Oil Company brought in its heavy production upon Comar Oil Company leases in the Tonkawa Field, Mr. Gilland was placed in charge of the northwest part of the state and has remained in that capacity since, supervising operations in the Tonkawa, Garber and Braman Fields with three assistants.

He has always been active in welfare work for the company employes and in his district there are several community halls, gymnasiums, and recreation halls where picture shows, amateur theatricals and safety-first demonstrations are held.

PERSONAL PARAGRAPHS

Frank King, drilling contractor of Tulsa, Okla., is on a business trip to Texas fields.

* * *

C. W. Smith, sales representative of the Borden Company, is traveling through the Texas fields.

* * *

Mr. and Mrs. Fred Saunders of Petrolia, Ontario, who have been in the Trinidad fields, reached California recently en route for Canada.

* * *

Clarence Mazey, state oil and gas supervisor of Montana, is in the Great Falls hospital with an attack of influenza. He is expected to regain his health and take up his work in a few weeks.

J. A. Harrison, Louisiana lease broker, was in Fort Worth, Tex., last week on a business trip.

* * *

John G. Marzel, state geologist of Wyoming, toured the Big Muddy and Salt Creek fields recently.

* * *

Early Deane, operating in the North Louisiana and North Texas regions, was a recent Houston, Tex., visitor.

* * *

Roy M. Lambert, marketer of petroleum products at Tulsa, Okla., called on refiners at Shreveport, La., during the week.

* * *

John E. Neelly, royalty owner in the Seminole Field, is at his home in Tulsa after a trip to the south Texas fields.

* * *

James Sanson has resigned his position as superintendent with the Ontario Lands & Oil Company of Petrolia, Ontario.

* * *

Walter M. Priddy, president of the American Refining Company of Wichita Falls, Tex., is spending a few days in Tulsa.

* * *

Harry L. Lowe, president of the Advance Engineering Company of Los Angeles, Calif., is visiting the Mid-Continent fields.

* * *

F. A. Leovy, vice president of the Gulf Production Company of Pittsburgh, Pa., has been in conference in New York for a few days.

* * *

John H. Thacher, oil producer of Kansas City, Mo., has been in Okmulgee, Okla., a few weeks looking after his holdings in that field.

* * *

E. F. Conners, former vice president of the Independent Oil & Gas Company of Tulsa, Okla., is spending a few weeks in New York.

* * *

E. H. Adderton, field superintendent for the Producers & Refiners Corporation was a Casper, Wyo. visitor from his home in Parco, Wyo.

* * *

John Schalk, head of the land department in the Rocky Mountain division of the Union Oil Company of California, was a recent Panhandle, Tex., visitor.

* * *

F. J. Bradford, manager of the United Iron Works of Tulsa, Okla., has been traveling over the oil fields of Wyoming and stopped in Casper for a few days.

* * *

A. W. Thompson, sales manager of the Westcott Valve Company, has returned to his headquarters at Tulsa, Okla., after a trip to the Texas Gulf Coast fields.

* * *

William Calder, of Calgary, Alberta, Federal petroleum and natural gas inspector, is inspecting the drilling operations in the vicinity of Simpson, Saskatchewan.

* * *

George D. Locke, vice president in charge of sales for the Barnsdall Oil Company, has been spending a few days in Tulsa and is back in Chicago, his headquarters.

* * *

M. R. Schaffer, general superintendent, and R. L. Morton, assistant treasurer, both of the Empire Gas & Fuel Company, were in the Texas Panhandle on a business tour.

* * *

"Skinner" McMurray, oil field representative for M. B. Skinner Company of Chicago, attended the Natural Gas Association convention held recently in Cincinnati, Ohio.

* * *

Jacob France, president of the Mid-Continent Petroleum Corporation; C. O. Moody, vice president and general manager; C. F. Beekley, chief geologist; Judge J. C. Denton, head of the legal department, have been touring the Midland, Texas, zone. E. H. Stafford is manager of the Midland office.

* * *

William F. Chisholm, director of the minerals division of the Louisiana Department of Conservation with offices at Shreveport, La., and K. C. Jones, inspector at Lake Charles, were in New Orleans in connection with a hearing on a proposed new method for the manufacture of carbon black.

W. L. Connelly, general manager for the Sinclair interests in the Rocky Mountain region, has returned to the Casper, Wyo., offices after a business trip to New York City.

* * *

Meade B. McPherson, manager of tube and pipe sales for the Allegheny Steel Company of Pittsburgh, Pa., has returned to Pittsburgh after a trip through the Mid-Continent Field.

* * *

Paul Reid has resigned as assistant auditor of the Houston Oil Company, Houston, Tex., and expects to be connected with a concern that will give him an opportunity to be engaged outside.

* * *

David Barr, prospector and driller, of St. Thomas, Ontario left recently for northern British Columbia where he will spend the summer developing mining claims in the Peace River district.

* * *

W. J. Wollman, financier of New York and president of W. J. Wollman & Co., is making a trip through the Mid-Continent oil fields visiting Independence, Kansas, and Tulsa, Okla.

* * *

R. E. Wertz, vice president and general manager of the Producers & Refiners Corporation, with headquarters at Parco, Wyo., has been re-elected mayor of that city. Mr. Wertz was the only nominee.

* * *

A. A. Klein, chief clerk to the district superintendent of the Humble Oil & Refining Company, has been transferred to the Corsicana, Tex., district and was succeeded in the Panhandle area by C. E. Capers.

* * *

Arthur Carr, formerly Houston manager for the Lucey Manufacturing Company, but now vice president of the American Seamless Tube Corporation of California, was a recent visitor among Gulf Coast operators.

* * *

Shep Miers, representing the Dunn Manufacturing Company in Texas, Louisiana and Arkansas fields, with Houston headquarters, has returned after a month's swing around the various fields in Louisiana and Arkansas.

* * *

Godfrey L. Cabot, oil operator, carbon black manufacturer, and a resident of Boston, Mass., stopped over in Casper, Wyo., recently to visit the Salt Creek Field. He then proceeded to Montana where he will examine territory.

* * *

A. G. Nusser, head of the land department of the Standard Oil Company of Louisiana at Shreveport, La., was at Plaquemine, in the flooded district of southern Louisiana, the past week in connection with lease business of the company.

* * *

Newton Chapin, president, Charles W. Wright, vice president, J. F. Stephenson secretary-treasurer of Lee Co. Moore Company makers of tubular derricks, have just returned to Pittsburgh, Pa., after a trip through the Mid-Continent fields.

* * *

W. W. Beidleman, of the Coen Company, combustion engineers, San Francisco, Calif., attended the annual meeting of the Natural Gas Association at Cincinnati, Ohio, and after visiting the trade in the Mid-Continent, has returned to the Pacific Coast.

* * *

William A. Knapp, vice president of the Butler Manufacturing Company of Kansas City, Mo., has returned to his home after a 1,600-mile trip by motor through the West Texas oil fields. He was accompanied by A. A. McAllister, Texas representative of the company.

* * *

R. C. Grinnell of the Fluid Packed Pump Company of Los Nietos, Calif., has returned home from a several months visit to the Mid-Continent where he called on the trade in company with Robert N. Atmore of the Robert N. Atmore Company of Tulsa, Mid-Continent distributors.

* * *

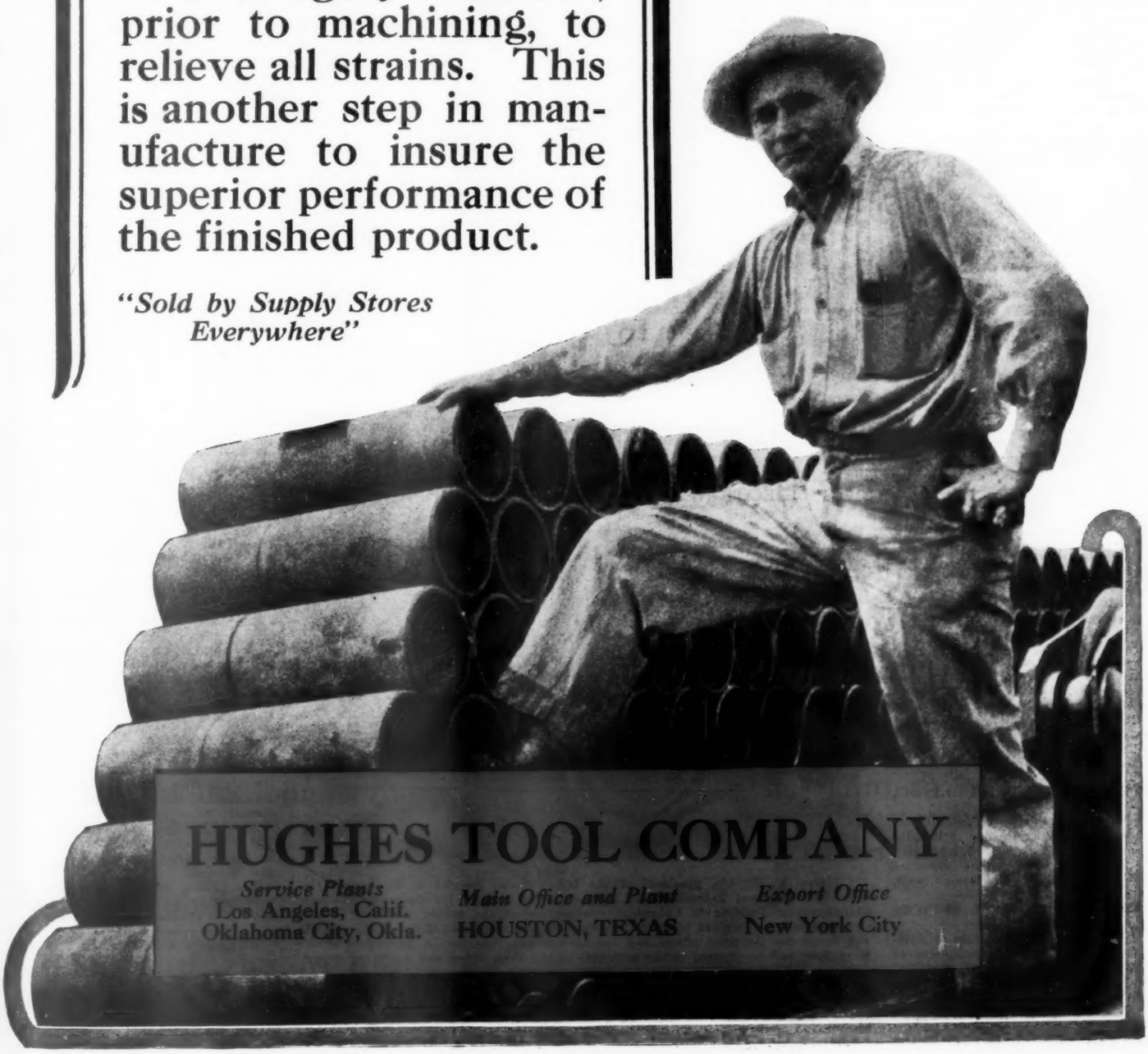
G. B. Davies, manager of wholesale sales of the Louisiana Oil Refining Corporation of Shreveport, La., attended a meeting of the Georgia Independent Oil Men's Association at Atlanta, Ga., May 17 and 18. Before returning home, he transacted company business at Pensacola, Fla., and Birmingham, Ala.

EVERY HUGHES TOOL JOINT FORGING

is thoroughly annealed, prior to machining, to relieve all strains. This is another step in manufacture to insure the superior performance of the finished product.

"Sold by Supply Stores Everywhere"

No. 2 of a series of informative advertisements on the manufacture of the Hughes Tool Joint. We believe it costs more to manufacture a Hughes Joint than any other joint on the market.



HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.

Main Office and Plant
HOUSTON, TEXAS

Export Office
New York City

EQUIPMENT AND SUPPLIES

NEW CHAIN DRIVE TYPE OF MOTOR TRUCK ADDED

Two new types of 4-cylinder dump trucks with nominal ratings of 2½ tons and 3½ tons respectively have recently been added to the line of motor trucks manufactured by the International Harvester Co. The smaller of these, designated as Model 54-C, has a capacity of from 2½ to 3 yards, and the larger, designated as Model 74-C, 4 to 5 yards.

The chain-drive truck is said to appeal to many people because of the simplicity of the chain mechanism, the ease with which adjustments and repairs can be made while the truck is on the job, and also the ability of the truck to pull out of gravel pits and excavations. Both models are provided with a wide range of gear ratios so that when necessary a maximum of power can be exerted in pulling up steep grade and at other times a fair rate of speed with a minimum of fuel consumption can be attained on level and easy-going stretches. The transmission includes four speeds forward and one reverse. In the larger Model 74-C truck, in addition to the reduction gear type of drive, the live axle has a two-speed range, which provides an exceptionally wide choice of power applications.

NEW YORK OFFICES FOR EXPORT TRADE

Giving due recognition to the growing requirements of export business, the Axelson Machine Co. has announced the establishment of offices in New York City at 30 Church Street. A large suite of offices on the fifteenth floor will be devoted exclusively to export business.

A. A. Dill, who has been associated wil Axelson Machine Co., for many years, has been selected as general manager of the export office. He has been in charge of field service for the southern part of Oklahoma and the Gulf Coastal territory.

Clyde Ellwood, general sales manager, was recently in New York for 10 days, arranging for opening the new offices. He states Mr. Dill will be assisted by a competent staff of foreign field service engineers. T. E. Ward, who has been the New York representative of Axelson Machine Co. for several years, will continue to be affiliated with the company in an advisory capacity.

FIRST BUILDING UNIT

Announcement is made by Link-Belt Ltd., that Jackson-Lewis Co., Ltd., Toronto, has been appointed general contractors on the first unit of the building program of the company. The company's property is at the corner of Eastern Avenue, and Leslie Street, Toronto. For 12 years this company has occupied rented factories, but expansion in its manufacturing lines and business has made necessary the purchase of about 5 acres of land, and the start of its building program.

SHIPPED TO RUMANIA AND INDIA

The Bovaird Supply Co. of Tulsa, Okla., has just completed a shipment of Bovaird elevators and spiders to the Rumanian and Indian oil fields. The elevators have been shipped to many foreign fields.

OPENS MID-CONTINENT OFFICES

The Stoody Co. manufacturer of welding rods, alloy steels, and equipment of Whittier, Calif., has opened Mid-Continent offices at 220 East Brady Street, Tulsa, Okla. in charge of R. W. Willis. S. M. Stoody vice president of the company, is visiting in Tulsa and assisting in the organization of the new office.

STEEL TONNAGE LIKE LAST YEAR; BUT PRICES HAVE BEEN WEAKENED

By B. E. V. Luty

PITTSBURGH, Pa., May 23.—The pipe trade in general continues in poor shape, as to demand, compared with conditions a year ago. The steel trade as a whole is in much the same condition as a year ago with respect to tonnage, but it is in decidedly poor shape as regards prices, for in several lines prices are lower than a year ago and some of the weakening is of very recent date. Pipe shows no quotable change from a year ago, though of late there have been some little trimmings that were absent a year ago.

Demand for oil well material, casing, drill pipe, tubing, etc., is very poor. Demand has been decreasing since February, when it was not heavy, but when there was some buying for stock replenishment. A year ago the demand was remarkably good, much above the average, while now it is much below the average, and thus the comparison is very poor.

Even in standard or merchant pipe demand is hardly equal to that of a year ago, when demand was not particularly heavy. This falling off is attributed to there being less building operations, although reports in general represent building to be decidedly active.

Recent estimates of pipe mills operating at 75 per cent were doubted in many quarters, and now there is a disposition to estimate the operation at 70 per cent rather than at 75 per cent. It is possible that even 70 per cent is too high an estimate. What operation does occur is supported in considerable part by old orders for line pipe, and it is to be noted that very little line pipe buying has been reported in the past few weeks. There is not much likelihood of new oil lines of any consequence coming out, but there are always chances in gas lines.

Operating Percentage

The steel industry as a whole is running at somewhat under 85 per cent of nominal or assumed capacity, but the capacity rating is about a year and a half old and meanwhile capacity has increased, so that even an 85 per cent operation would not mean as much as the same percentage rate a couple of years ago.

Whatever may be the cause it is a fact that prices in several finished steel lines have been weakening farther of late. This comes about not by open and clear cut declines but by special prices ordinarily given only to the largest trade being extended to smaller and smaller trade whereby in the course of time the open market on rather small lots becomes the price formerly applicable only to the largest lots, and made as a special concession. This was the course pursued by the nail market until finally, a few days ago, producers began quoting openly at $2.50 on nails instead of the former "regular" price of $2.55, which was being shaded almost universally.

Bars have pursued much the same course. While $1.90 is still called the regular market, there is very little business done at that figure, unless in the immediate Pittsburgh district, and $1.85 is really the going price, with special concessions beyond that figure to the largest trade. In shapes, similarly, much business is now done at $1.80 when formerly $1.90 was commanded, $1.90 being now only a very small lot price.

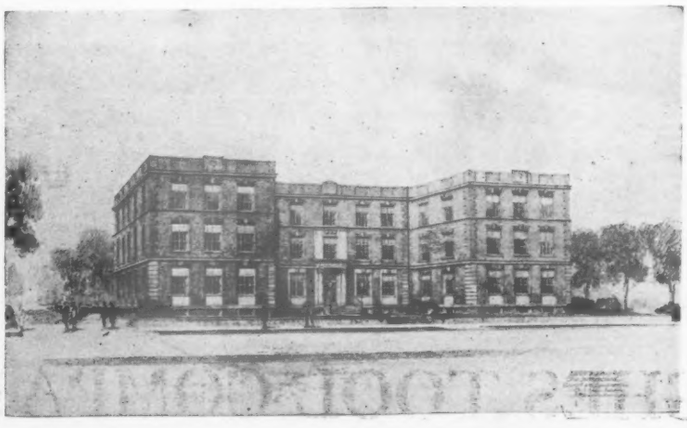
Prices Easier

Standard or rolling billets continue quotable at $33, to which they dropped in February, but forging billets continue to be held generally at $40, which is the old price, made up of the old $35 rolling billet price plus $5 extra for ordinary forging quality.

The valley pig iron market is easier. Bessemer and basic have gone at 50 cents under former quotations, with foundry unchanged but dull, the market being now at $19 for Bessemer, $18 for basic and $18.50 for foundry.

The coal strike continues to drag along without developing any news of consequence. There has been little striking in nonunion territory and coal is cheaper than in March. There has been no striking at all in the Connellsville coke region and coke continues to weaken. Spot furnace coke is commonly quoted at $3.00 but this price has been shaded. The market was $3.25 to $3.50 on April 1.

IDECO'S NEW ADMINISTRATION BUILDING



Harry M. Runkle, president of the International Derrick & Equipment Co., Columbus, Ohio and Torrance, Calif., broke ground recently for the company's new administration building in Columbus. Some idea of the beauty and size of this structure will be obtained from the drawing of the architects—Miller & Reeves. It will house the executive offices and the various departments. A large part of the third floor will be devoted to the activities of the engineering and designing department.

This organization has an office force in Columbus of more than 70 people. Its branch sales offices are located practically wherever oil is found in this country.

The company manufactures structural steel derricks, steel wheels, and other rig equipment, Ideco standard steel buildings, railway switch, signal and floodlight towers and transmission towers for the electrical power lines.

TAGLIABUE CO. OPENS NEW CLEVELAND BRANCH

The C. J. Tagliabue Manufacturing Co., of Brooklyn, N. Y., maker of industrial instruments, has opened a branch factory at 5902 Carnegie Avenue, Cleveland.

This development has come about through the desire of Tagliabue to provide the utmost in quick service and to cut down freight and express charges for the benefit of users of Tag instruments in Ohio, Western Pennsylvania, Indiana and Michigan.

The recent growth of the Tag business in that region has made the opening of a branch factory a necessity.

The prime function of the new factory will be repair work, with special attention to emergency orders. The repair facilities of the main factory in Brooklyn have been nearly duplicated, in special equipment, in trained personnel, and in other respects, except only that of size.

NEILAN SCHUMACHER & CO. OPEN TULSA OFFICE

Neilan, Schumacher & Co., Los Angeles, Calif., manufacturers of valves and engineering specialties have established a branch at Tulsa, Okla. P. H. Wilkinson has been appointed division manager in charge. Mr. Wilkinson is a graduate of the University of Minnesota and the Michigan College of Mines, and after graduation was mechanical and chief engineer for several large copper mines in Arizona and Mexico. Later he did post graduate work in mechanical engineering at Columbia University, New York.

His engineering experience has been broad, including contracting on his own behalf, as well as engineering chief in charge of construction and development for several public service corporations in Utah and Arizona, and several years in engineering development for oil companies in California and Mexico. He has been associated with Neilan, Schumacher & Co. for more than a year, in charge of design and experimental engineering.

NEW AUSTIN OFFICES IN CHICAGO, CINCINNATI

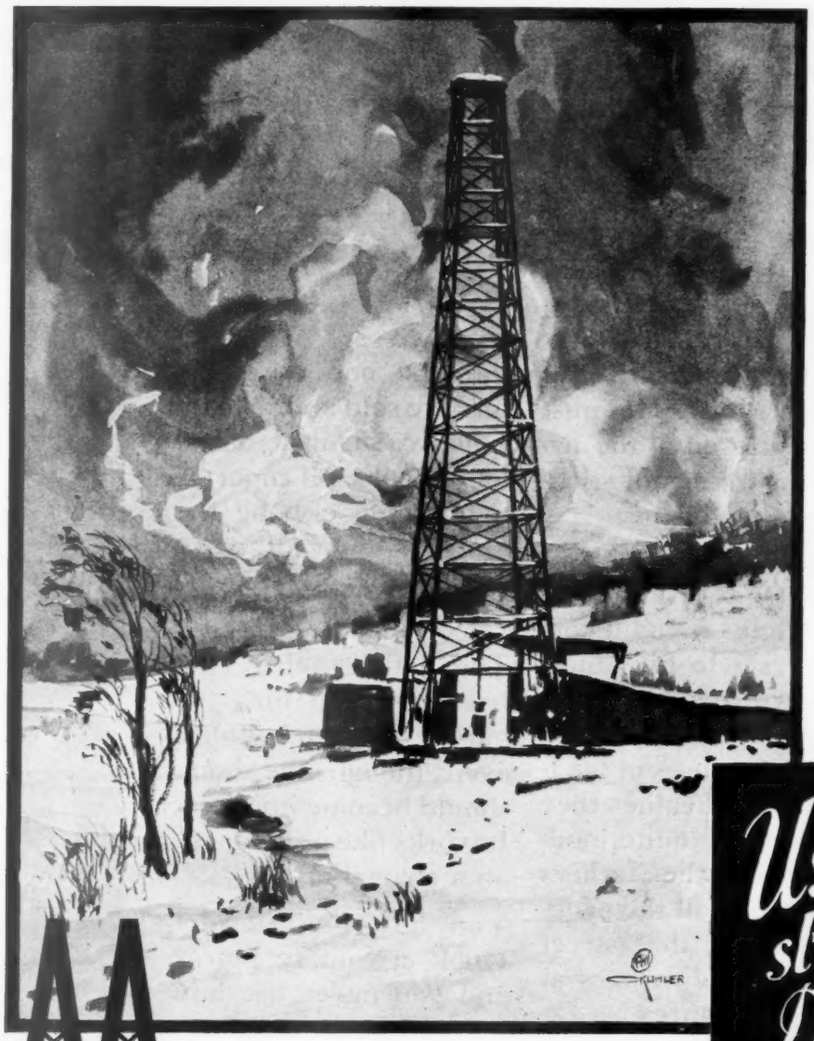
The Austin Company, engineers and builders, whose national headquarters are located in Cleveland, has opened a branch office in Cincinnati, which brings the total of offices throughout the country to 13.

H. L. Cornelison, until recently manager of the Miami office, has been placed in charge of the new Cincinnati office, on the sixth floor of the Dixie Terminal Building. Territory covered by the Cincinnati office includes southern Ohio, southern Indiana and Kentucky. Over 200 industrial projects have been built by Austin in the Ohio Valley during the past 5 years.

The Chicago headquarters of The Auston Company moved to larger quarters at 510 North Dearborn Street on May 1.

OKLAHOMA REPRESENTATIVE

The Electric Controller & Manufacturing Co., of Cleveland, Ohio, announces the appointment of the Petroleum Electric Co., 217 East Archer Street, Tulsa, Okla., as their representative in Oklahoma and the Panhandle district of Texas.

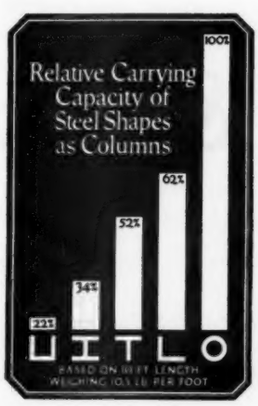


Use the strongest Derrick

Moore
TUBULAR STEEL DERRICKS

MOORE uses *Steel* in its most rigid shape—the *Tube*—with a joint that is stronger than the section itself—the *Moore Patented Clamp.* The result is unquestionably the strongest derrick made.

Tubular steel is the strongest section, with the greatest rigidity per unit of weight, that can be used to carry compressive loads.



World Wide Service for Twenty Years

Strong as is the steel tube, tests show the clamped and braced joint to be the strongest part of a Moore Tubular Steel Derrick.

The Moore *is* strongest.

LEE C. MOORE & COMPANY, *Inc.* PITTSBURGH · TULSA

Established 1907

DALLAS, TEXAS HOUSTON, TEXAS WICHITA FALLS, TEXAS BORGER, TEXAS PARKERSBURG, W. VA.
CASPER, WYO. SHREVEPORT, LA. EL DORADO, KAN. EL DORADO, ARK.

Stewart Hooks
for Sucker Rods and Tubing

SO VERY many folks shout superlatives at the Oil Man! He must frequently envy the urchin the luxury of sticking out his tongue.

There is a yarn about the city fathers who asked folks along a certain street to fix values on their properties. The victims thought it was for the purposes of taxation and the values they named were quite modest. Then the fathers condemned all the properties along that street and paid the owners at their own figures.

The viewpoint makes a lot of difference in the value of most things.

But YOU can look at these hooks and see what we see. We made the first one years before we sold one. Meantime we figured out a lot of hooks, all superior to anything else on the market, but all very much inferior to the Stewart.

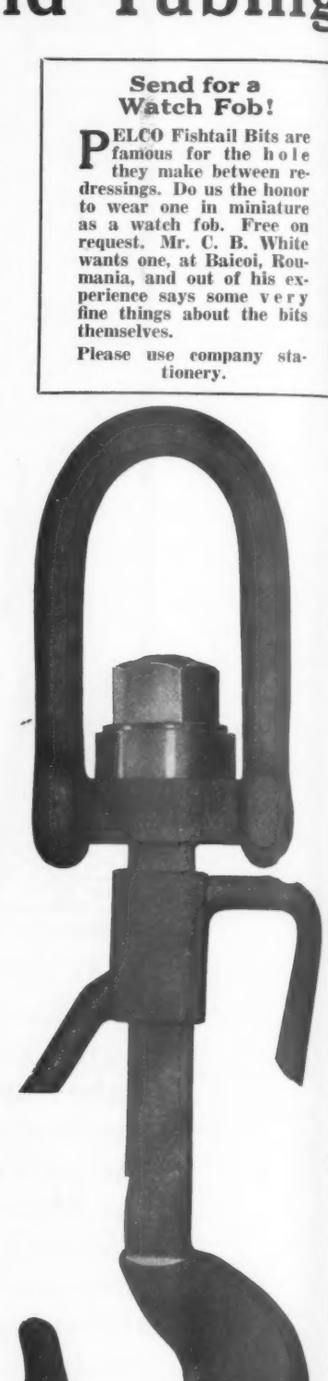
The harder the load tries to jump out, the harder the latch holds, even though the hook should become inverted. It works like a slip noose on a struggling cow.

You buy the Stewart Hook at Supply Stores and you never use any other kind thereafter. The Sucker Rod Hook is just like the Tubing Hook illustrated, except that no handle is required to lift the latch.

Send for a Watch Fob!

PELCO Fishtail Bits are famous for the hole they make between redressings. Do us the honor to wear one in miniature as a watch fob. Free on request. Mr. C. B. White wants one, at Baicoi, Roumania, and out of his experience says some very fine things about the bits themselves.

Please use company stationery.



Pelican Well Tool & Supply Co.

Shops and General Offices, Lake and McNeil Streets, Shreveport, Louisiana

Private Branch Exchange Numbers 3255-3256-3257 and 2-2254

Shops and Store, Haynesville, La. Telephone 162 — Store at Norphlet, Arkansas Telephone 10 — Store at Smackover, Arkansas Telephone 29

The Mutual Supply Company, 503 Washington St., Houston, Texas, and the General Oil Tool Company, 406 West First Street, Tulsa, Oklahoma, carry factory warehouse stocks of such PELCO Products as: Bailers—Bailer Tops and Bottoms—Bits, Fishtail—Clamps, Anchor and Casing—Casing Heads, La. Pattern Stuffing Box—Collars, Forged Steel Drill—Cutters, Inside Casing—Devices, Liner Setting "J" Tool Type—Rotary Fishing Tools—Hooks, Safety Sucker Rod and Tubing—Joints, Rotary Tool—Nipples, Belled—Nipples, Extra and Double Extra Strong, for drilling—Packers, Canvas and Burlap collapsible—Packers, Rope—Seals, "J" Tool Lead—Shoes, Forged Steel Drive and Set—Shoes, Tool Steel Rotary—Strainer, Water Well—Tongs, Break-Out—Etc., Etc.

Oklahoma Gross Production for First Quarter

Out of the more than 14,000 reports made to the state auditor of Oklahoma for the first quarter of 1927 on the quantity and value of crude oil production and royalties of those filing reports, the following long list of more important factors was made up. It represents about 2,300 separate reports.

The reports show the quantity of oil or gas, or both, produced for the account of the companies and individuals named and its commercial value, or the commercial value alone where the quantity is not given.

The royalty owners are indicated by an asterisk (*).

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
*Adams, Grace V., Nebraska City, Neb.			$ 1,736.66
Ashland Oil Co., Tulsa	2,987.68		4,622.30
Cyrus S. Avery, Tulsa	256.16		382.00
Cyrus S. Avery (prod.), Tulsa			666.58
J. A. Alexander, guardian, Okemah			2,839.64
Alma Royalties Corp., New York City			2,775.33
*Mrs. Isabella Laidlow, New York City			483.40
American Indian Oil & Gas Co., Poteau			2,200.00
American Oil & Refining Co., Oklahoma City			130,846.44
American Oil & Gas Co., Bartlesville	2,822.68		4,479.77
Arkansas Fuel Oil Co., Pittsburgh, Pa.			24,564.61
*American National Bank, administrator, Enid			7,142.60
Aurora Oil & Gas Syndicate, Tulsa	562.90	3,801	1,405.36
Almeda Oil Co., Tulsa	2,877.77		4,533.68
S. F. Alford, Tulsa	1,085.43		1,991.36
Atchison Oil & Gas Co., Atchison, Kans.	1,652.00		2,628.64
Acme Development Co., St. Louis, Mo.	1,667.07		2,830.79
Amos & Grindle, Dewey			1,381.28
Annia M. Alling, Guthrie			1,289.21
Adams Royalty Co., Chicago, Ill.	13,166.32		258,712.83
Atlantic Oil Products Co., Dallas, Tex.		679,107	54,831.23
A. B. Ayling, Bartlesville			1,405.34
*Atlantic Oil Producing Co., Dallas, Tex.	65,549.70		127,334.28
Atlantic Oil Producing Co., Dallas, Tex.	353,863.85		597,556.00
Arthur Oil Co., Sistersville, West Va.	6,271.57		11,286.70
*Arthur Oil Co., Sistersville, West Va.			331.27
Agivine Oil & Gas Co., Tulsa			9,542.50
*Amanda Schumacher, Orange, Calif.			7,130.09
H. Y. Arnold, Tulsa	1,423.66		3,212.97
American Oil Development Co., Pittsburgh, Pa.	7,278.08		12,018.03
J. F. Alleman, Council Hill			1,240.16
J. A. Adair, Tulsa			1,365.12
American Pipe Line Co., Wichita Falls, Tex.	7,551.55		13,458.06
American Eagle Oil Co., Bartlesville			22,290.86
Avery Oil & Gas Co., Tulsa			2,478.30
J. A. Armor, Oklahoma City			1,598.89
*Amerada Petroleum Corp., Tulsa	698.89		1,209.87
Amerada Petroleum Corp., Tulsa	2,182,057.60	1,072	4,016,162.59
J. W. Adair and Nora Adair, Quincy, Ill.			2,873.99
Albion Oil Co., Tulsa	4,562.33		5,978.78
American Royalty Petroleum Co., Tulsa			1,043.71
*American Royalty Petroleum Co., Tulsa			7,830.97
Ray E. Anderson, Owasso			1,403.88
*E. R. Anthis, Muskogee			685.10
*Ida B. Anthis, Muskogee			866.83
*Austin F. Anthis, Muskogee			2,107.21
*James M. Anthis, Muskogee			5,479.38
American Drilling Co., Lundsburg, Kans.			6,739.27
*B. N. Altom, Tonkawa			10,731.49
*J. E. Arnold, guardian, Beggs			1,553.24
*American Royalty Co., Long Beach, Calif.			2,326.38
Anglo Petroleum Corp., Blackwell			15,284.43
*D. W. Anderson, Wewoka			4,576.37
*Anderson & Peterson, Blackwell			2,862.76
*C. F. Adams, Ardmore	3,375.52		5,091.64
*E. C. Aldridge, Wewoka			14,578.03
Associated Oil Properties, Chicago, Ill.			2,388.42
All-American Oil & Gas Co., Oklahoma City	2,966.54		5,359.78
*Grace Arthur, Brooklyn, N. Y.			536.33
Earl Athey, Ardmore			1,870.61
*Earl and Emma Athey, Ardmore			1,741.89
J. H. Arnold, trustee, Tulsa	2,117.68		2,892.65
C. T. Aaronson, Tulsa	743.43		1,512.22
*Nellie H. Anderson et al, Los Angeles, 1310 Commr. Exc.			6,829.60
Chas. Aymer, Nowata			1,518.81
*J. A. Alexander, Okemah			5,430.93
*Joe Abraham, Bristow			6,537.34
S. W. Anthony, Mounds			20,334.40
Frank Anderson, Nowata			4,772.21
*B. M. and R. B. Athey, Enid			2,493.31
*H. N. and E. B. Andrews, Newkirk			7,359.20
Amerada Petroleum Corp. (suspense), Tulsa	14,411.48		25,812.32
*Amerada Petroleum Corp. (suspense), Tulsa	5,230.05		7,203.57
Amerada Petroleum Corp., Tulsa	9,299.21		18,556.18
Amerada Petroleum Corp., Tulsa	35,458.35		70,733.62
Amerada Petroleum Corp., Tulsa	26,412.31		44,649.46
Walter Andrews et al, Shawnee	5,527.33		8,439.22
*Adams Royalty Co., Chicago, 20 W. Jackson Blvd.			2,813.07
*Byron W. Apple, Oklahoma City			586.80
*S. A. Apple, Oklahoma City			11,703.81
B			
Brooks Drug Co., Tulsa			1,402.93
*W. E. Brown Co., Tulsa			18,784.83
*Thos. N. Berry, Stillwater			24,861.64
*E. J. Blank, Cushing			20,990.07
*V. E. Bolene, Enid			4,148.83
*L. J. Burkhalter, Blackwell			7,895.89
C. O. Buckles, Tulsa	1,630.35		2,854.70
C. O. Buckles, Tulsa	1,978.63		3,414.98
H. W. Blakeslee, Nowata			2,004.04
*H. W. Blakeslee, Nowata			975.26
R. P. Brewer, trustee, Tulsa			2,062.51
James Brazell, Oklahoma City			562.15
*James Brazell, Oklahoma City	2,689.66		5,298.81
*E. H. Brady, Tulsa	1,023.86		1,800.60
*T. E. Burch, Wewoka			2,279.09
Baroda Oil Co. et al, Okmulgee	3,609.02		6,430.34
F. R. Bredgmon, Lowdon, Ohio	1,634.08		2,538.86
R. G. Berry, Tulsa	505.80		1,054.48
Bradford Oil Corp., Robinson, Ill.	509.13	1,367	966.15
*Thos. G. Blaney, Davenport			1,018.24
*C. W. Brittan, trustee, Enid			1,122.40
*W. W. Banks, Bristow			1,258.98
*William Bell, Weleetka			1,222.68
*Blackstone Oil Co., Tulsa	784.61		1,354.92
*L. C. Brown, Oklahoma City	856.17	2,005	1,757.48
*W. M. Bell, Weleetka			1,650.96
*A. B. Budlong, Tulsa			1,329.91
*M. W. Bigley, Chickasha			1,561.58
*W. M. Bell, Wetumka			1,486.56
*J. F. Bennett, Ardmore			1,835.77
*C. H. Brewer, Ardmore			1,008.40
Guy Brown Oil Co., Wichita Falls, Tex.			2,714.23
Beggs Oil & Gas Co., Okmulgee			9,463.76
Bay Petroleum Co., Chickasha	9,652.67		17,747.80
*Josie M. Brown, Bartlesville			2,423.18
*W. E. Brown Co., Tulsa			48,264.08
*Naomi Lee Brown, Tulsa			1,486.72
*Cora Lee Brown, Tulsa			4,035.88
Bradley & Bradley, Muskogee			2,903.24
*Albert Emmett Barney, Bristow			1,615.93
Burke & Greis, Tulsa			732.61
Burke & Greis Oil Co., Tulsa			191,488.00
Burke & Greis Oil Co., Tulsa			5,751.05
Burke-Hoffield Oil Co., Tulsa			13,499.51
Bird Gaffney & Simons, Bradford, Pa.	1,355.00		2,142.12
George D. Berry, Coffeyville, Kans.	775.89		1,332.35
F. L. Benage, Delaware			3,586.16
*J. D. Boxby, Holdenville			1,696.54
W. P. and Maud Brown, Okmulgee			1,895.35

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
*Goodwin Barclay, Tonkawa			1,466.84
Harry Brady, Okmulgee			1,566.97
*Ida M. Brentnall, East Enid			1,718.40
*Jesse F. Butts et al, Enid			1,758.88
*H. H. Bell, Muskogee			1,556.05
*W. E. Barr, Nowata			1,512.07
John L. Brock, Jr., Muskogee			1,443.99
*Blue Ribbon Oil & Development Co., Shawnee			108,078.44
Barbara Oil Co., Oklahoma City	6,727.91	65,568	16,463.87
*John H. Bennett, Pauls Valley			5,657.32
E. B. Bell, Kansas City, Mo.	1,032.82		1,884.54
*Mrs. Mary F. Barrett, Austin, Tex.	2,141.97		3,629.78
*Charles Brigham			4,549.85
C. H. Bradfield, Tulsa	3,956.84		5,702.56
*W. H. Bousfield, Auburn, Neb.			1,795.51
*William C. Breed, New York City			9,001.57
Jos. B. Bragassa, Tulsa			1,596.18
*Jos. Ballard, Ripley			8,148.55
*J. J. Brown, Jr., et al, Blackwell			22,099.03
*Anna Becker, Tonkawa			2,621.42
Blackstone Oil & Gas Co., Tulsa	879.30		1,472.04
*Mary Blasdel, Blackwell			3,282.28
*Baker Royalty Co., Oklahoma City			1,273.42
Braden-McClure Oil Co., Hutchinson Kans.	1,627.60		2,845.41
Bergen Oil & Gas Co., Tulsa	3,675.51		5,803.41
Bingman Smith Oil Co., Okmulgee			2,689.67
*C. C. Bombarger, Paden	2,703.51		4,647.96
E. H. Brady et al, Tulsa	1,505.68		2,449.32
*J. W. Brown, Blackwell			4,441.10
*W. K. Bell, Henryetta			1,620.48
*H. A. Brady et al, Ardmore	750.60		1,222.95
*George Blubaugh, Tonkawa			2,926.12
*A. L. Braymer, Tulsa			1,431.85
*M. R. Bruce, Bristow			2,278.30
*A. H. Buescher, Oakhurst			1,052.27
*R. B. Brown, Duncan			1,334.56
*A. F. Brown, Bartlesville			102.02
*James Brown, Bartlesville			2,617.98
*Earle Berryhill, Sapulpa			4,804.02
W. M. Bovaird-Coser, Sapulpa			4,090.66
*Chas. W. Bliss, Tulsa			1,449.23
*Baker, George, Maramec			3,075.93
Bridwell & Heydrick, Wichita Falls, Tex.	1,053.35		1,931.84
*E. R. Bechtel, Blackwell	5,905.31		12,793.55
Sans Bois Gas Co., Quinton			11,152.16
Brownlee & Martin, Tulsa	4,704.01		8,627.75
*Rosalie Beverlin, Wichita, Kans.			2,619.74
*F. A. Beverlin, Wichita, Kans.			64,735.55
F. R. Billingslea, Tulsa			40,444.29
*F. R. Billingslea, Tulsa			1,744.66
*B. J. Badger, Okmulgee			6,320.32
Frank M. Breene et al, Tulsa	4,090.36		7,179.52
Frank M. Breene (trust estate), Tulsa	7,271.48		11,890.85
*Frank M. Breene, Tulsa			156.89
*Mrs. Nettie E. Beatty, Los Angeles, Calif.			2,755.09
*Bermont Oil Co., Bristow	5,056.69		9,638.06
*E. M. Billings, Enid			769.25
*Henryetta and M. and Geo. Billings, Enid			5,503.04
*Geo. M. Billings, Enid			1,247.97
*W. S. Billings, Enid			1,073.22
*John Blubaugh, Tonkawa			2,218.75
*Christine M. Blubaugh, Tonkawa			1,101.71
*Mary A. Blubaugh			2,203.43
*Braswell Oil Co., Tulsa	683.51		1,220.40
Braswell Oil Co., Tulsa	857.33		1,813.61
Berry Petroleum Co., Tulsa	17,585.80	3,612	30,213.05
W. O. Broyles, Stillwater			6,094.78
*A. E. Bowers, Wellington, Kans.			3,673.31
Barnsdall Oil Co., Tulsa		Gas	15,249.75
C. D. Burns, Preston, Ark.			4,486.24
Howard Bean Drilling Corp., Amarillo, Tex.	1,334.22		3,093.72
John L. Broch, Jr., Okmulgee			3,109.62
*John L. Broch, Okmulgee			3,576.57
*S. J. Brown, Duncan			5,605.69
*Jas. H. Boch, Muskogee			4,435.27
Chas. F. Burke, Tulsa			206.76
Burke-Gibbs Co., Tulsa	2,706.52		4,619.70
*A. D. Buchanan, Muskogee			1,840.66
Barnsdall Oil Co., Tulsa	1,445,520.55		2,526,695.85
*Barnsdall Oil Co., Tulsa			2,929.39
*Britton Johnson Oil Co., Tulsa	6,969.57		9,809.53
*Blackwell Oil & Gas Co., Blackwell	1,030.16		2,099.04
Blackwell Oil & Gas Co., Blackwell	265,502.94	9,371	387,757.56
*Mrs. R. E. Burks, Braman			11,353.11
*G. A. Biddle, Braman			11,353.11
Black-Sivalls & Bryan, Bartlesville	3,303.96		6,100.92
Beacon Oil Co., Bartlesville	8,071.78		12,427.55
Bryan & Emery, Inc., Tulsa			3,987.55
E. A. and Anna Bradley, Tulsa	2,113.99		3,371.10
Samuel Bright, Okmulgee	628.07		1,136.61
Samuel Bright, Okmulgee			2,637.05
Bright & Bright and McTaggart, Okmulgee			149.36
*W. L. and W. B. Brittain, Oklahoma City			6,310.82
H. A. Brown, Bristow			3,174.64
Gladys Belle Oil Co., Tulsa	22,914.45	177,883	60,544.79
*Gladys Belle Oil Co., Tulsa			73.77
*J. O. Brown, administrator, Tulsa			1,676.35
J. O. Brown, Tulsa			874.98
*Augusta Bucholz, Perry			7,129.99
Clyde J. Bakner, Burkburnett, Tex.	2,106.03		3,667.33
Mary J. Belless, Guthrie			3,306.39
Merle E. Buttram, Oklahoma City			891.54
Frank Buttram, Oklahoma City			31,089.57
*Frank Buttram, Oklahoma City			19,994.80
*George and A. M. Beggs, Enid			2,128.22
*Nettie Borden, Wewoka			2,173.82
*Belco Royalties, Inc., New York City			86,965.22
*G. M. Berry, Pawnee			11,068.12
*William Buch, Wetumka			3,830.92
Boggs Oil Corp., Oklahoma City			24,153.15
*J. L. Barnum, Kaw City			4,571.67
*Baker, J. E., Bristow			2,417.58
*J. B. Booker, Cleveland			1,870.75
J. W. Bird et al, Bradford, Pa.	6,575.30		10,858.04
Braman Oil Co., Inc., Tulsa	14,993.68		27,840.19
Black Oil Co., Tulsa	4,280.34		8,133.23
*Susie Boyle, guardian, Stillwater			796.96
*Susie Boyle, guardian, Stillwater			2,324.50
Baltic Operating Co., Bartlesville	5,176.03		6,674.89
*Baltic Operating Co., Bartlesville			242.72
C. E. Burlingame, Bartlesville	15,426.84		28,431.19
Bisett, Lytle & Gray, Tulsa	5,307.15		8,595.60
Burton Springfield Oil Corp., Tulsa	3,264.42		6,842.38
R. D. Brown, Kansas City, Mo.	3,804.15		6,144.65
*G. L. Buch and J. J. Feeney, Rochester, N. Y.			4,787.78
Bay State Oil & Gas Co., Kansas City, Mo., and Paden Oil Co., Oklahoma City	4,823.41		8,415.30
*Earl Beard, Bartlesville	265.14		450.15
Earl Beard, Bartlesville	3,753.48		5,866.00
J. V. Bailey, Cushing			4,487.85
*James A. Burrow, Graham			2,899.29
*Emma and Ben Boepple, Covington	2,990.23		5,329.26
Braden & Moore, Tulsa	6,405.45		11,796.40
C. E. Braden, Tulsa			174.53
Braden Co. (production)	2,369.65		2,886.45
*A. Brune, Tulsa	736.12		1,320.13
Brune & Abbott, Tulsa	614.59		988.30
Brundred Oil Corp., Oil City, Pa.	1,681.43		2,654.23
Geo. S. Bole, Tulsa	17,774.80	31,263	32,403.67
*Geo. S. Bole, Tulsa	3,227.76	5,629	6,373.34

(Continued on Page 190)

Texas Gross Production for First Quarter

The gross production report for Texas, for the first quarter of 1927 shows a total of 51,078,427 bbls. of crude oil produced, valued at $75,633,853.42. The report for the last quarter of 1926 showed a production of 53,477,132.04 bbls. having a value of $88,552,581.08.

One of the features of the report is the continued important figure cut by comparatively new producing organizations. While the old-time companies like the Humble, Gulf, Texas and Magnolia continue high among the leaders, companies which have entered the Texas fields in recent years have added materially to the visible supply of petroleum which Texas has yielded in more than abundance in recent times.

GROSS RECEIPTS TAX REPORTS ON CRUDE OIL PRODUCTION FOR THE QUARTER ENDING MARCH 31, 1927

Name and Address—	Barrels	Value
A		
Adams, W. B., Burkburnett	516.90	
Atkinson & Sandefer (12-31-26), Breckenridge	21,222.66	$48,061.57
Antilley, J. H., Sour Lake	2,875.43	4,025.60
Amicable Life Insurance, Waco	360.00	540.00
Ada Belle Oil Co., Batson	29,450.05	37,107.60
Agate Brothers, Eastland	198.44	306.49
Anchor Oil Co., Dallas	2,057.03	3,756.60
Atlantic Oil Producing Co., Dallas	294,515.41	475,640.57
Amarillo Oil Co., Amarillo	3,093.52	3,402.87
Alamo Oil Co., Brownwood	334.00	534.40
Andrews Petroleum Corp., New York, N. Y.	5,929.00	7,698.61
Ardcona Oil Corp., Ardmore, Okla.	1,922.40	3,093.14
Anna Belle Oil Co., Dallas	3,365.18	6,663.06
Apple-Brandeberry Oil Co. et al, Wichita Falls	14,426.04	26,578.76
Andrews, W. R., et al, Putnam	2,506.86	4,575.44
Abercrombie, J. S., Co., Houston	87,315.08	119,620.05
Apex Oil Corp., Amarillo	57,426.07	68,911.28
American Well & Prospecting Co., Corsicana	62,766.27	73,223.13
Ashe Syndicate, The, Fort Worth	1,255.18	2,174.91
Arkansas Fuel Oil Co., Pittsburgh, Pa.	8,461.53	14,521.07
Associated Oil Co., San Francisco, Calif.	39,794.03	50,096.31
Alaska Petroleum Co., Amarillo	2,614.53	2,245.32
Allday Oil Corp., Wichita Falls	305.23	482.82
Ailes, J. W., Wichita Falls	906.00	1,250.28
Aztec Petroleum Co., San Antonio	134.03	167.54
Acorn Oil Co., Beaumont	7,562.98	10,242.77
Atlas Oil Corp., Humble	5,164.00	6,971.00
Atkinson & Sandefer, Breckenridge	15,792.14	31,073.91
All-American Oil & Gas Co., Oklahoma City, Okla.	75.29	132.73
Ascot Co., The, Wichita Falls	9,910.73	19,430.13
Albright, Brock & Withers, Wichita Falls	1,017.64	1,548.07
Amerada Petroleum Corp., Tulsa, Okla.	375,886.10	606,568.91
Appleman, H., Tulsa, Okla.	31.36	47.14
American Refining Co., Inc., Wichita Falls	138,779.65	190,446.65
Artex Oil Co., Wichita Falls	3,103.56	5,707.74
Adams, Brown & Lickey, Wichita Falls	152.48	204.32
Alonzo, Jr., Oil Producers, Laredo	2,681.73	3,352.16
Aaronson, C. T., Tulsa, Okla.	179.94	386.88
Acorn Oil Co. (9-30-26), Beaumont	7,198.37	11,071.39
Associated Petroleum Co., Fort Worth	22,686.52	36,105.13
Arnold & Frazier, Putnam	635.38	1,168.87
B		
Breckenridge Gasoline Co., Toledo, Ohio	340.07	664.67
Bridwell & Heydrick, trustees, Wichita Falls	6,946.92	12,390.32
Brady Brothers, Minerva	4,760.22	8,612.32
Badger Oil Co., Amarillo	6,859.12	7,940.00
Beans Drew, Abilene	440.26	
Bass & Dillard, Wichita Falls	2,374.34	4,493.08
Boller, C. W., Wichita Falls	1,417.06	2,629.24
Booth Oil Co., Olney	445.00	742.50
Boyd, E. W., Wichita Falls	274.88	553.80
Basham, C. E., Wichita Falls	78.63	113.22
Bowman Oil Co., Rockdale	2,987.36	5,521.95
Brown, Mrs. Carrie L., et al, Orange	28,225.44	37,727.25
Baker, J. A. and Mollie B., Breckenridge	7,769.00	13,207.30
Blue Bonnet Petroleum Corp., San Antonio	1,390.88	2,105.05
Brown, Dr. E. W., estate, Orange	2,300.35	3,159.01
Baker Oil Co., Inc., Houston	2,413.18	3,205.34
Black Cat Oil Co., Electra	1,331.26	2,355.69
Bexata Oil Co., San Antonio	2,018.04	3,117.02
Burton McKee Oil Corp., Strawn	525.94	931.80
Britton, Gordon & Wickins, Strawn	438.91	831.17
Biel, William A., Von Ormy	40.00	64.00
Bartlett, William, & Co., Electra	645.75	1,198.60
Beaver Oil Corp., New York, N. Y.	19,063.87	22,553.73
Baird Oil Co., Moran	643.56	1,141.44
Burns, L. T., Wichita Falls	73,303.24	122,688.02
Burns & Maxson, Wichita Falls	8,004.49	14,794.50
Bynum, W. W., Rockdale	1,872.18	3,421.05
Barbara Oil Co., Oklahoma City, Okla.	59,409.15	96,621.97
Burk-Venus Oil Co., Dallas	51.77	83.92
Bailey, Fannie, Wichita Falls	1,557.31	2,645.93
Broughton, S. J., Brownwood	114.84	206.71
Babcock, Scheurer & Schlaffke, Electra	145.21	267.32
Bearden, Annie, lease (Lee Wilson), Wichita Falls	4,316.28	7,333.86
Brazos River Gas Co., Wichita Falls	311.30	623.85
Brownwood Producing & Refining Co., Brownwood	2,403.94	4,150.32
Bashara & Bashara, Waco	1,457.00	535.50
Brock & Showers, Corsicana	1,806.50	3,543.53
Big Lake Oil Co., Pittsburgh, Pa.	2,018,382.60	3,190,462.02
Black-Pearson & Hudson, Corsicana	8,519.92	9,970.31
Bonner, J. H. S., et al, Wichita Falls	4,836.41	9,346.91
Buttram Petroleum Corp., Oklahoma City, Okla.	39,813.43	77,607.34
Bonchol Co., The, Wichita Falls	7,467.93	14,443.74
Big Bend Oil Co., Laredo	444.65	556.00
Big Four Consolidated Oil Co., El Paso	264.24	508.00
Brinkley Producing & Refining Co., Pittsburgh, Pa.	569.58	952.84
Buckeye Pipe & Supply Co., Breckenridge	178.62	317.31
Bryan Oil Corp., Houston	1,699.12	2,939.48
Bynum & Palmer, Rockdale	320.39	586.44
Bailey & Damuth Drilling Co., Wichita Falls	1,291.01	2,262.45
Bluebonnet Oil Co., Wichita Falls	976.96	1,546.40
Buckeye Development Co., Columbus, Ohio	61.42	192.58
Beggs Oil & Gas Co., McKinney	1,402.00	2,993.96
Baldwin & Griswold, Fort Worth	5,800.21	11,750.39
Baldwin, F. C., et al, Fort Worth	2,871.77	5,590.34
Brown & Co., Inc., Cisco	4,430.88	7,519.45
Burkburnett Production Oil Trust, Baltimore, Md.	493.11	962.25
Bashara, M. J., Wichita Falls	33,086.62	45,401.78
Brannon & Murray, Cisco	5,189.34	9,641.92
Bay Oil & Gas Co., Mirando City	1,253.55	1,567.00
Balir & Kell, Dallas	2,038.03	3,484.28
Beasley, C. U., Electra	514.75	903.38
Braden Co., The, Eastland	3,168.37	6,098.13
Borealis Oil Co., Oklahoma City, Okla.	4,013.87	7,224.96
British American Oil Prod. Co., Wichita Falls	15,220.98	28,625.97
Bashara, J. F., Houston	15,235.28	20,737.87
Bohner, C. J., Burkburnett	4,873.00	8,792.49
Bleakley & Kinnison, Wichita Falls	1,074.84	1,845.37
Big Indian Oil & Development Co., Gainesville	877.04	1,754.08
Bridwell & Heydrick Oil Co., Wichita Falls	132,834.47	246,909.41
Bartlett Production Co., Rockdale	5,161.51	10,039.91
Bridwell & Mayfield, Wichita Falls	16,176.17	29,099.90
Buchanan, S. R., Batson	14,745.63	19,902.66
Barnsdall Oil Co., Tulsa, Okla.	53,169.98	87,626.51
Barkley & Meadows, Wichita Falls	3,994.89	7,184.84
Barkley & Conway, Ranger	19,014.74	38,388.54
Barkley, Crotty, Six & Little, Ranger	6,135.47	10,470.52
Burke-Greis Oil Co., Tulsa, Okla.	4,449.67	7,572.75
Barkley & Crotty, Ranger	8,752.60	15,948.26
Bradstreet, L. G., Cross Plains	19,462.53	35,343.08
Bevering, A. H., et al, Henrietta	2,856.47	4,740.45
Bruce, H. J., Wichita Falls	1,822.19	3,272.95
Barkley & Meadows, Wichita Falls	95,283.21	172,683.51
Burke-Greis & Gwinnup, Tulsa, Okla.	4,138.84	8,220.21
B. K. Oil Co., Austin	2,168.02	2,644.37
Barkley, T. G., Sour Lake	1,679.77	2,268.99
Buffalo Oil Co., Amarillo	3,565.83	3,572.83
Broderick & Perrin, Fort Worth	772.62	1,337.57
Bullington, Lee, Pendleton & Bullington, Wichita Falls	12,495.97	23,267.36
C		
Caldwell, John W., Wichita Falls	1,425.48	2,256.12
Collier, J. W., and wife, Mable, Graham	2,189.35	4,251.84
Clara Oil & Production Co., Beaumont	471.05	693.30
California Co., The, Colorado	231,783.00	327,963.84
Cromwell, Carl G., Big Lake	12,397.58	12,158.23
Charter Oil Co., Brownwood	17,409.75	31,166.08
Cole, W. C., Wichita Falls	1,129.07	2,093.24
Cashdollar & Snyder, San Angelo	411.68	658.68
Carteret Oil Corp., Jersey City, N. J.	1,304.78	2,366.91
Cintex Petroleum Co., Cincinnati, Ohio	5,754.46	7,193.08
Chapman, P. A., Jr., Eastland	635.63	1,074.85
Consolidated Oil Co. of Texas, Wichita Falls	39,635.33	74,360.57
Corzelius Brothers & Taggert, Eastland	1,101.93	1,867.16
Corsicana Oil & Refining Co., Corsicana	9,116.99	11,111.00
Center Dome Oil Co., Panhandle	2,625.56	3,121.11
Cox Edwin B., Ardmore, Okla.	3,436.08	6,054.92
Cady Oil Co. of Texas, Moran	3,742.40	6,596.17
Coyle Concord Oil Co., San Antonio	2,022.73	3,601.69
Canary, S. C., et al, Tulsa, Okla.	895.40	1,458.98
Collier, Dr. J. W., and wife, Markley	1,079.77	1,800.72
Camp Oil & Gas Co., Wichita Falls	5,485.95	10,193.91
Carteret Oil Co., Jersey City, N. J.	1,216.58	2,648.53
Crown Oil & Refining Co., Houston	16,025.67	21,074.72
Crown Central Petroleum Corp., Houston	110,411.70	131,544.90
Chenault, N. B., Wichita Falls	4,898.59	9,150.49
Caruthers Co., San Antonio	2,232.72	3,323.24
Cranfill Brothers Oil Co., Wichita Falls	1,323.67	2,334.83
Coble-Whittenburg Oil Co., Amarillo	30,000.00	28,500.00
Carter, Roy I., Wichita Falls	1,290.90	2,330.33
Canyon Oil & Gas Co., Cross Plains	8,130.33	15,407.24
Conner Sons & Clughley, Gotebo, Okla.	7,453.08	11,407.21
Crowe, W. H., and Elmer Crowe, Iowa Park	63.42	122.60
Craig & Lowrie, Pittsburgh, Pa.	1,372.29	1,863.57
Cotton, J. H., & Co., Iowa Park	1,472.75	2,689.90
Caldwell Guadalupe Pick-Up Station, Inc., Luling	1,318.00	1,636.31
Carlin, W. W., Ranger	365.00	653.35
Carlin & Tobin, Ranger	338.88	545.59
Carlin & Dewhirst, Ranger	319.00	577.39
Cornhuskers Oil Co., Lincoln, Neb.	4,509.09	5,636.37
Clay, J. D., Houston	3,686.47	4,929.37
Curry, E. M., Rising Star	9,941.61	19,896.36
Cowling & Hoops, Wichita Falls	239.38	418.57
Coffey & Schlaffke, Electra	83.91	163.57
Caltex Oil Co., Spokane, Wash.	595.45	867.53
Caudle, F., Rockdale	498.67	905.51
Coppeck & Coleman, Iowa Park	4,429.70	8,205.75
Canadian River Oil Co., Amarillo	23,912.93	28,155.42
Cockrell-McIlroy Oil Co., Amarillo	34,263.48	38,243.98
Conway Brothers & Gholson, Ranger	1,370.94	2,452.57
Curtis, John A., Wichita Falls	4,598.52	8,459.23
Canyon Oil Co., Seminole, Okla.	74,436.91	71,234.11
Cranfill Brothers Oil Co., Dallas	9,692.66	18,034.69
Capitol Oil Co., Orange	4,529.48	7,100.79
Carter, Fine & Carter, Wichita Falls	3,170.80	5,129.31
Cisco Oil Co., Tulsa, Okla.	39,609.79	67,300.91
Central Holding Co., Wichita Falls	851.18	1,564.26
Collins, J. L., & Co., Corsicana	19,800.99	23,838.76
Clear Lake Oil Co., Rockdale	4,129.83	7,760.12
Chenault, Palmer & Burch, Wichita Falls	22,452.51	41,452.15
Christie Brothers, Wichita Falls	7,472.16	17,107.63
Continental Supply Co., St. Louis, Mo.	473.94	843.14
Crenshaw, Albert, Wichita Falls	2,355.63	4,454.18
Cosa Oil Co., Cisco	584.54	1,146.94
Corlett, W. B., Wichita Falls	637.94	1,170.83
Coffey & Graham, Wichita Falls	515.92	944.62
Clark, R. R., Wichita Falls	31,849.57	58,399.37
Church & Fields, Midland	2,623.70	2,073.60
Continental Oil Co. of Texas, Wichita Falls	925,276.51	1,514,986.24
Culbertson Co., Wichita Falls	23,647.71	45,398.97
Cline Oil Co., Wichita Falls	2,062.59	3,712.66
Cohen, Aaron, Baltimore, Md.	21,284.27	40,044.35
Coons & Hotchkiss, Graham	11,796.84	13,762.24
Cohen & Lebow Trust, Baltimore, Md.	294.21	488.99
Chicago Oil & Land Co., Rockdale	1,916.88	3,558.58
Cline, W. D., et al, Wichita Falls	571.86	1,057.94
Clark, C. W., Wichita Falls	201.94	266.57
Chestnut & Smith Corp., Tulsa, Okla.	175.12	302.81
Coffield & Hale, Rockdale	6,339.01	10,561.01
Cook & Reeder, Wichita Falls	3,346.75	6,069.06
Champlin Refining Co., Enid, Okla.	7,322.09	7,703.62
Cowling & Newell Oil Co., Wichita Falls	497.98	976.35
Chapman, P. A., estate, Waxahachie	22,129.51	38,417.21
Cranfill & Reynolds, Cisco	134,821.61	245,747.12
Castleberry, S. A., Vernon	726.32	1,264.09
C. W. M. T. Oil Co., Wichita Falls	3,237.18	6,042.87
Cosden, J. S., Inc., Fort Worth	67,233.59	137,761.63
Campbell & Crenshaw, Wichita Falls	1,300.27	2,192.58
D		
Deep Sands Syndicate, Corsicana	528.00	659.00
Domestic Oil Co., Cisco	883.18	1,892.93
Daniel, S. B., Wichita Falls	1,746.56	3,223.94
Developers Oil & Gas Co., Wichita Falls	854.00	1,485.90
Dale Oil Corp., Wichita Falls	32,128.74	58,947.02
Duffield & Howard Oil Co., Tulsa, Okla.	631.51	1,074.07
Dominion Oil Co., Tulsa, Okla.	1,601.84	2,900.01
Dickey Oil Co., Cisco	140.14	229.67
Dale Oil & Refining Co., Wichita Falls	3,043.59	5,441.45
Dayton Oil Co., Dayton	802.00	1,122.80
Dale-Knotts Oil Co., Wichita Falls	261.32	490.48
Davis, W. F., Wichita Falls	950.08	1,672.14
Davis, George T., Burkburnett	6,090.00	12,397.71
Dixon Creek Oil Co., Amarillo	461,127.91	525,685.81
Dennis, J. S., Moran	1,776.30	3,057.73
Douglas Oil Co., Tulsa, Okla.	1,650.56	2,063.20
Dismuke, H. A., receiver, Liberty	16,222.00	21,931.60
Douglas Production Co., Electra	2,443.49	4,431.47
Douglas Brothers & Lebus, Electra	924.42	1,750.13
Den-Wich Oil Co., Abilene	1,330.82	2,456.93
Double Five Oil Co., Amarillo	3,783.50	4,394.79
Derby Oil Co., Dallas	1,344.97	2,047.54
Deutser, H., trustee, Beaumont	1,064.22	1,426.38
Derby & Haines, Wichita Kans.	17,451.63	20,767.14
Dallas Bradford Oil Co., Dallas	121.60	234.68
Dudley, C. S., Iowa Park	908.52	1,668.48
Davis, Caroline A., Somerset	528.89	787.78
Dillon-Glasscock, San Antonio	499.73	683.75
Devonian Oil Co., Tulsa, Okla.	63,388.68	72,150.88
Dorian, R. P., Wichita Falls	5,697.61	10,725.75
Dixon, Reeder & Cook, Wichita Falls	2,020.94	3,756.24
Dunaway, J. E., Wichita Falls	752.56	1,055.31
Dale & Crawford, Electra	977.24	1,844.97
Dixie Oil Co., Inc., Shreveport, La.	267,201.05	253,983.67
Dibble Oil Co., San Antonio	2,288.71	2,862.64
Delmar Oil Co., Bartlesville, Okla.	5,796.77	6,863.31
Davis, L. R., Tulsa, Okla.	261.81	340.77
Dalton, Jack, Oil Co., Fort Worth	1,286.33	2,242.90
Diana Oil Co., Tulsa, Okla.	10,337.64	18,963.48
Derby, Haines & Williams, Wichita, Kans.	209,887.54	250,815.61
E		
Earnest Oil Co.,† Rockdale	1,273.82	2,343.82
Exley, H. J., Burkburnett	103.97	154.91
Electra Production Co., Electra	1,661.39	3,166.34
East Batson Oil Co., Batson	26,661.59	39,112.15
Empire-Pierce Fordyce lease, Fort Worth	16,187.11	30,687.38
Eureka Producing Co., Tulsa, Okla.	25,239.20	46,364.16
Eddy Oil Co., Beaumont	290.39	363.00
Eastern Petroleum Corp., Wichita Falls	1,931.60	3,438.99
Easton, E. S., Wichita Falls	2,254.36	4,171.11

(Continued on Page 88)

TRIMO

Pipe to the Chain Wrench:

"Hey! Trimo, here s a good one. That new stock of pipe, bet us old pipes, that it could break your back. Easy money—for us. We tried the same gag on you when you first came, but remember how you tamed us? Boy! I'll never forget that first bite of yours—and it's just as strong yet."

Chain Wrench to the Pipe:

"That's a hot one! all right. The factory didn't put the best selected bar steel, sure grip jaws in my make-up for nothing. Every so often I have to take fresh pipe lines down a peg, so lead me to it. That pipe will know it's up against a *real wrench* when *I* take hold, you bet!"

The workman:

"My money goes on Trimo, too. I've used 'em all, but for stamina, sure grip, strength and long life give me Trimo every time. You can always trust a Trimo —*but get what you ask for.* Remember the five letters: T-R-I-M-O"

(MEMO: When a man asks for a chain wrench, he means a *Trimo*)

For sale at Hardware, Plumbing and Mill Supply Stores

TRIMONT MANUFACTURING CO.
ROXBURY (BOSTON), MASS.

The Truth Abou

SINCE we have revealed the true condition of MILL SECONDS and the method of how it is being marketed to the Oil and Gas Industry, in the April 14th issue of the Mid-Continent Purchaser, the May 5th issue of The Oil and Gas Journal and the May 6th issue of the Oil Weekly, we find that 90% of the Oil and Gas Fraternity did not realize that MILL SECONDS consists of such an inferior grade.

A great many Oil and Gas men, representing every Branch of the Industry have carefully inspected the car of MILL SECONDS in our Tulsa Yard which we have purchased and placed there for the purpose of acquainting all interested parties as to the true condition of MILL SECONDS.

The majority of those who have examined this car of SECONDS admitted they were not aware that MILL SECONDS consists of such a small per cent of usable pipe.

Most of them conceded the fact that unless a dealer would tell the truth of the actual condition of MILL SECONDS at the time of the sale, the inspector would hardly know what to look for as when brokers and dealers get through preparing it for the market, with the Mills allowing to go out without stencil, makes it very difficult for the inspector to find all defects.

For instance, a great deal of MILL SECONDS consists of BURNED METAL which requires an expert to determine shortly after the pipe gets weather rusted. With regard to DEFECTIVE WELDS, about the only thing the average inspector would find would be welds which are noticeably open and the same would apply to heavy blisters, providing they would be on top. However, a great deal of same is on the inside. When the dealers get through "fixing" the noticeable defects and put on collars and protectors it makes the pipe look more merchantable and helps pass inspection.

The Dealers and Brokers buy MILL SECONDS as it runs for an approximate price of from $30.00 to $40.00 per ton, based upon sizes of pipe, which represents about double the price of what scrap iron is worth at the Mill, selling for from $75.00 to $100.00 per ton. Allowing cost of freight and handling leaves a net profit of approximately fifty to one hundred per cent. The Mills who sell MILL SECONDS grasp the opportunity to save about fifteen dollars per ton over scrap iron prices, apparently with no regard to protecting the Trade.

Pipe over three inches in diameter ranges about three to four weights to the size. When you buy MILL SECONDS, you get all weights of pipe under the assumption of its being slightly underweight and if you will investigate, you will find some of it is too light to stand, not only eight thread but any kind of thread—yet it is all equipped with eight thread and often represented as first class pipe, only underweight. By reason of mixed weights and the dealer buying same by the ton and selling on a per foot basis, reduces his cost to where his profits are enormous, while you are paying practically as much for defective pipe as you can buy number one used pipe, or light weight number one Mill shipment.

We all know the Mills condemn this grade of pipe for no other reason than being defective on account of BURNED METAL, BLISTERED PIPE, BAD WELDS, and other defects. If any part of it is good enough to be used for the purpose for which it is being sold, it would be no more than fair that the Mills take out the scrap grade material, stenciling the remainder as to what it may be truthfully used for, in that way closing the avenue of misrepresentation rather than allowing it to go out without a stencil or any other indication as to its true condition, as well as the name of the Manufacturer, as is

ut Mill Seconds

being done now especially in view of the fact that one of the large Mills who sells MILL SECONDS, in their letter to us, replying to ours of January 28th, stated as follows:

> *"You are going to find it very difficult to have a stencil put on pipe such as described in your letter, that will not be easily eliminated should an unscrupulous dealer desire to do so."*

Brokers and Dealers who sell MILL SECONDS are not anxious to have it stenciled because it would indicate the truthful defects which would interfere with their making enormous profits as, undoubtedly, the customer would expect to buy it at a price which an inferior grade of material is worth.

Since we have published the truth about MILL SECONDS, we have had a number of dealers try to defend themselves on the theory that, while an enormous amount of MILL SECONDS is being sold in the Mid-Continent Field, not all of it is sold for lines. They state a great portion is used in the manufacture of tubular rigs. Upon due investigation, we find there is a great deal of MILL SECONDS sold to Rig Manufacturers. Think what it means to find BURNED or other defective pipe in a rig you are depending upon to carry the heavy duty load. Think of the lives of men you are endangering and financial loss due to collapse of the rig which is liable to happen on account of the inferior grade of material.

REMEMBER, when you build Gasoline Plants, Lines or Rigs, the cost of construction is just as great or greater when using MILL SECONDS as it is when you use No. 1 pipe, freight and erection cost being the same. If you will stop to consider the SAFETY and SALVAGE VALUE on No. 1 pipe, you will find you are losing instead of saving by using MILL SECONDS.

You, no doubt, will be interested to know the Taubman Supply Corporation is the first to sound the alarm as to the true condition of MILL SECONDS and method of its sale, as the question of MILL SECONDS is no secret to some of the other Supply Men who have also never handled MILL SECONDS. Some of the reasons why others have not started this Campaign are:

FIRST: The expense and time required in making careful investigation.

SECOND: The cost of publications in which our articles appear.

THIRD: The greatest reason of all—whether or not some of the other Supply Houses want to antagonize the Mills who market Mill Seconds.

The Taubman Supply Corporation was built on the merits of a Square Deal to every Customer and does not hesitate to tell the truth.

Ever since the inception of our Organization, we have done our utmost to promote fair dealing in the Second Hand Pipe Industry and now that we are handling new pipe, we are interested to eliminate whatever bad practices we find.

TAUBMAN SUPPLY CORPORATION

General Offices: Midco Building
TULSA, OKLAHOMA

District Sales Offices: 1424 Niels Esperson Bldg., Houston 403 Magnolia Bldg., Dallas, Texas

Branches

EL DORADO, KANSAS SEMINOLE, OKLAHOMA PHILLIPS, PANHANDLE, TEXAS

Cable Sense

Cable sense is sometimes spelled "Cable cents," depending entirely upon your selection of the various brands.

You can buy a cheap cable which will no doubt look good—but when you get it on your rig and it gives you less service and more trouble, you will recognize this cheapness as false economy.

The best quality Cable is none too good to stand the grief of drilling.

Columbian Pure Manila Cable

is a quality product which has no superior. Because of its two outstanding characteristics of toughness and elasticity, it is one of the fastest drilling and most serviceable cables on the market.

It is decidedly Cable Sense to use a Columbian Pure Manila Cable.

DISTRIBUTED BY
THE NATIONAL SUPPLY COMPANIES
NSCO

Columbian Rope Company

342-70 Genesee Street

Auburn "The Cordage City" N. Y.

Branches:—
New York Chicago Boston New Orleans

"Drill with Manila"

By Invitation Member
Emblem of BUSINESS CHARACTER
Rice Leaders of the World Association
Recognizes High Standing in MAKE-PRODUCT-POLICY

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 47)

CROCKETT COUNTY

Anchor Oil Co. (Cumberland) No. 1 Couch, C NE Sec. 18, Blk. QR, D. & S. E. T. R. R. Sur.—Shut down 3,075 ft.

V. T. Bolin & Co.'s No. 1 P. C. Coates, NW cor. SW Sec. 4, Blk. 2, I. & G. N. Sur.—S.D., 2,110 ft.

Carl Cromwell's No. 4 Powell—Old T.D., 2,695 ft; S.D., 3,410 ft.

J. K. Hughes' No. 2-B Powell, Sec. 63, E. L. & R. R. Sur.—Fishing for 18 joints 8-in.; total depth 2,535 ft; shut down.

Magnolia Pet. Co.'s No. 2 Shannon, SE SE Sec. 9, Blk. BB, E. L. R. R. Sur., elev. 2,670 ft.—Hole full sulphur water 2,390 ft.; small show oil 2,385-90 and 2,-992 ft; S.D., 4,100 ft.

William Shaffer and others' No. 1 University, C SE SE Sec. 9, Blk. 47, University Sur., elev. 2,344 ft.—T.D., 2,344 ft.; plugged back to 2,208 ft; shot 10 qts. 2,170-95 ft.; S.D.

William Schaffer et al's No. 2 University, 1,350 ft. N and 2,610 ft. E of SW cor. Sec. 9, Blk. 47, Univer. Land.—S.D. for 12-in. at 714 ft.

W. W. Donnelly, Young, Logan & Hult's No. 1 Pierce, C SW Sec. 150, Blk. O. G. H. & S. A. Sur., elev. 2,105 ft.—Rainbow show 454 and 540 ft; S.D. for 10-in., 1,375 ft.

P. H. Williams' No. 1 L. P. Powell.—Top salt, 1,052 ft; drlg., 2,420 ft.

World Oil Co.'s No. 1 Schneeman, N and W SE cor. Sec. 57, Blk. BB, G. C. & S. F. Sur., elev. 2,679 ft.—Top salt 1,035 ft.; sulphur water 2,490 ft.; T.D. 2,575 ft.; trying to swedge pipe.

Young & Donnelly's No. 1 J. M. Shannon.—Moving in material.

CULBERSON COUNTY

James H. Gardner and others' No. 1 Radford, C SE Sec. 29, Blk. 62, Pub. Sch. Ld. Sur.—S.D., 400 ft.

DICKENS COUNTY

Bowser Mickels and others' No. 1 Pitchford ranch.—Drlg., 3,350 ft.

Moutray Oil Co. and Clancy & English's No. 1 Jones, SE cor. NW Sec. 311, Blk. 1, H. & G. N. Sur.—Drlg., 3,900 ft.

ECTOR COUNTY

J. S. Cosden, Inc., et al's No. 2 Connell-A, NW cor. NE Sec. 13, B-16, School land, elev. 2,844 ft.—Top salt, 870 ft; drlg., 2,220 ft.

J. S. Cosden et al's No. 3 G. W. Connell-A.—Top salt, 863 ft; drlg., 1,460 ft.

FISHER COUNTY

Barber Oil Co.'s (was Mason Oil Co.'s) No. 1 W. A. Cross.—Hole full salt water, 2,350-70 ft; drlg., 2,610 ft.

Zoch & McCamey and Marland Oil Co.'s No. 1 Lanius-A, (was Danciger O. & R. Co.'s No. 1 Lanius), NE cor. SE, Sec. 15, Blk. Y, T. & P. Sur.—S.D. for repairs, 3,737 ft.

Ideal Oil Co.'s No. 1 Jameson, C SE Sec. 111, Blk. 1, H. & T. C. Sur.—Hole full salt water, 2,345-2,520 ft; fish. bit, 2,560 ft.

Marland Oil Co. and Texon's No. 1 McCall.—Rig.

Marland Oil Co. and Vacuum Oil Co.'s No. 1 J. H. R. Lagow.—Drlg., 1,540 ft.

Miley Oil Corp. and Marland Oil Co.'s No. 1 W. W. Ammons.—New loc; moving in rig.

R. W. Raney's No. 2 Maberry.—S.D. for orders, 2,725 ft.

Sinclair Oil & Gas Co.'s (was Bourdon Royalty Co.'s) No. 1 J. A. Danise, Sec. 6, Blk. K, T. & P. Sur.—S.D. for casing, 565 ft.

Stearns & Streeter's No. 1 W. A. Howe, N and E SW cor. NE Sec. 12, Blk. 23, T. & P. Sur.—U.R., 3,542 ft.

The Texas Company's No. 1 D. S. Stevens, C SW SE SE Sec. 79, Blk. 1, H. & T. C. Sur.—Rigging up.

FOARD COUNTY

Fain-McGaha Oil Corp.'s No. 1 Mathews.—R.U. standard tools.

Humble O. & R. and Navarro Oil Co.'s No. 1 L. McAdams, C S ½ Sec. 27, Blk. L. S. P. Sur.—Hole full water, 2,560 ft; drlg., 2,565 ft.

GAINES COUNTY

Westheimer & Daube's No. 1 Birge & Forbes Land Co.—Rotary; drlg., 130 ft.

GARZA COUNTY

Emerald Oil Co.'s No. 1 D. Boren, NW cor. NE Sec. 137, Blk. 5, H. & G. N. Sur.—Small show oil in gray lime 1,-884-1,902 ft; S.D., 2,600 ft.

Pandem Oil Co.'s No. 1 Justice, SW cor. NW Sec. 2, Blk. 6, H. & G. N. Sur.—Rig.

GLASSCOCK COUNTY

Green et al's No. 1 F. G. Oxsheer.—S.D., 200 ft.

World Oil Co. and J. S. Meriwether's No. 1 L. S. McDowell, C SW Sec. 43, Blk. 34, Typ. 2-S, T. & P. Sur., elev. 2,553 ft.—Rigged up and S.D.

R. R. Penn et al's No. 1 W. P. Edwards, C SE Sec. 11, Blk. 34, Twp. 2-S, T. & P. Sur.—Slight show oil, 905 ft. in brown sand; drlg., 980 ft.

HOCKLEY COUNTY

El Capitan Oil Co.'s No. 1 Ellwood, SW cor. Sec. 55, Blk. A. R. M. Thompson Sur., 13 miles NW of Lubbock.—S.D., 1,000 ft.

HOWARD COUNTY

Bowers et al's No. 1 Chester Jones, C SW Sec. 32, Blk. 27, T. & P. (3,200-ft. test).—Drlg., 460 ft.

Fred Carey et al's No. 2 G. O. Chalk, SE NW Sec. 124, Blk. 29.—Drlg., 980 ft.

W. W. Donnelly et al's No. 1 Martin, SE cor. Sec. 41, Blk. 33, T-2-N, T. & P. Sur.—S.D., 1,519 ft. for water.

Francis & Brunson's No. 1 J. W. Furrh, C SW Sec. 11, Blk. 31, T. & P. Sur., T-1-S.—Location.

F. H. E. Oil Co.'s No. 1 John Roberts.—Hole full sulphur water, 1,397-1,401 ft; T.D., 1,575 ft; run 5-in.

Godley Oil Co.'s No. 1 A. J. Hooks.—Drlg., 1,500 ft.

Marland Oil Co. and Zoch's No. 1 Jones.—Drlg., 150 ft.

Marland Oil Co.'s No. 1 A. M. Fisher.—Rigging up.

Marland Oil Co.'s No. 1 J. B. Harding, C SE Sec. 19, Blk. 33, T. & P. Sur.—Corrected pay, 3,173-3,230 ft; shot 200 qts., 3,158-88 ft; swabbed 125 bbls; testing on pump.

L. C. Harrison et al's No. 1 Dora Roberts.—S.D., 725 ft.

Marland Oil Co. & Zoch's No. 1 Guitar Est. No. 1.—Top salt, 1,155 ft; drlg., 2,300 ft.

Owens & Sloan's No 1 John Roberts.—Drlg., 260 ft.

HARDEMAN COUNTY

Murchison Oil Co.'s No. 1 Mayfield.—Rotary; fish. drill pipe, 2,043 ft.

HUDSPETH COUNTY

Lockhart Brothers' No. 1 Gardner & Moseley, C SE Sec. 5, School Blk. 21.—S.D., 130 ft.

IRION COUNTY

Cash Dollar et al's No. 1 Abe Mayer, C NE Sec. 1, Blk. 10, S. P. R. R. Sur.—S.D., 3,545 ft.

Cash Dollar et al's No. 1 G. J. Bird, NE Sec. 16, Blk. 10, S. P. R. R. Sur.—S.D., 2,500 ft.

JEFF DAVIS COUNTY

Humble O. & R. Co.'s No. 1 Crecencio Flores, Sec. 34, Blk. 58, T. & P. Sur. T-3.—Straightening crooked hole, 300 ft.

J. K. Hughes Dev. Co.'s No. 1 J. Z. Means, 600 ft. from N line and 2,000 ft. from W line of M. Robinson Sur. No. 1.—S.D., 3,000 ft.

JONES COUNTY

Atlantic O. P. Co. and Landreth's No. 3 Howell.—Missed regular pay; S.D. 2,700 ft.

Bateman & Campbell's No. 1 Southard, C. NW NW Sec. 43, Deaf & Dumb Asylum Lands.—C.O., 1,990 ft. to resume drilling.

Midwest Exploration Co.'s (was Campbell et al's) No. 1 L. H. Herndon, Sec. 6, M. E. P. & P. Sur., elev. 1,832 ft.—Drlg., 2,240 ft.

Garland & Diamond's No. 1 E. D. Glynn, SE cor. Sec. 18, Deaf & Dumb Asylum Lands.—Location.

Gibson & Johnson's No 1 Largent, C SE Sec. 50, Blk. 149, Dewitt Co. School Land.—Drlg., 2,860 ft.

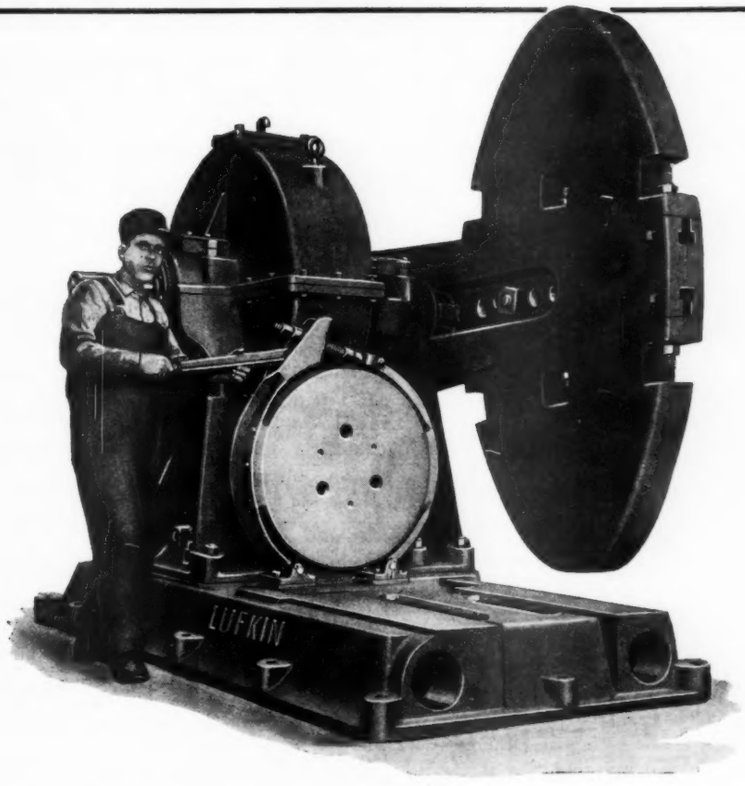
Gillette & Hickey's No. 1 M. E. Young, Tevanio Sur. No. 190.—S.D., 1,200 ft.

Grisham & Hunter & Wildman's No. 1 Williams, Harrison Co. School Land, elev. 1,732 ft.—Brown sand 2,620-40 ft.; tested 4 bbls. oil and 3 bbls. water; hole full salt water, 2,860-72 ft; reamed 6-in. to 2,877 ft; drlg., 2,880 ft.

Hutson & Weaver's No. 1 Smith, Sec. 51, Blk. 18, T. & P. Sur.—S.D. for fuel, 700 ft.

LUFKIN

LUFKIN Units by the hundreds are daily increasing pumping efficiency . . . replacing standard rigs . . . consolidating the pumping energy in one piece of efficient equipment. LUFKIN Units have found their way into the big fields in large numbers and many of the leading producers have standardized on LUFKIN Units.



ANOTHER STEP AHEAD

LUFKIN Units are now equipped with a powerful brake. Every operator will appreciate this added convenience.

Manufactured at Lufkin, Texas, by

THE LUFKIN FOUNDRY AND MACHINE CO.

District Offices

Tulsa, Okla. Houston, Texas

Los Angeles, Cal. El Dorado, Ark. New York, N. Y.

Kirk & Brewer's No. 1 J. H. Milsap, Justo Rodriguez Sur., League 357.... Hole full salt water, 2,403-10 ft; U.R.

Manhattan Oil Co.'s No. 1 S. W. King.... Drlg., 1,460 ft.

Marston Oil Co.'s No. 1 E. Howell, NW cor. SE W ½ of N 400 acres, Sec. 20, Blk. 19, T. & P. Sur.... Small show oil 2,496 ft; S.D., 2,545 ft.

Marston Oil Co.'s No. 1 J. S. Swan, Robert Spears Sur. No. 280 .... Hole full salt water, 2,390-2,400 ft; and 2,435 ft; T.D., 2,535 ft; U.R., 8-in.

Mid-Continent Petroleum Corp.'s No. 1 H. Evans, NE cor. SE SE Sec. 44, S. P. R. R. Sur.... Small show oil, 2,831-32 ft; S.D., 3,021 ft; contract completed.

Phillips Pet. Co.'s No. 1 Thornton.... Six bbls. water, 1,930-45 ft; hole full water, 3,055-58 ft; S.D., 3,088 ft.

Shaw & Rathke and others' No. 1 Bristow, SE SE Sec. 1, J. H. Gibson Sur.... S.D., 500 ft.

W. G. Stough and others' No. 1 J. P. Willis, J. C. Patterson Sur. No. 2 .... Drlg., 1,260 ft.

Swensondale Oil Co.'s No. 1 Caton, SW NW Sec. 9, Deaf & Dumb Asylum Lands.... S.D., 1,655 ft; run, 10-in.

Tomberlin et al's No. 1 Oscar Clapp, CSL SW Sec. 37, Blk. 16, T. & P. Sur.... S.R., 1,350 ft.

World Oil Co.'s No. 1 Boyd (was W. H. Lee), 12,700 ft. N and 2,130 ft. E of SW cor., Samuel Jones Sur. No. 266, elev. 1,729 ft.... T.D., 2,615 ft; S.D.

Kingston et al's (was Zeigler) No. 1 Reeves, C SE SE Sec. 164, B. B. B. & C. Sur.... S.D., 1,925 ft.

KENT COUNTY

Douglas Oil Co.'s No. 1 Scoggins.... Drlg., 2,200 ft.

Marland Oil Co. and Texon O. & L. Co.'s No. 1 Bilby.... Location.

KING COUNTY

Gibson & Johnson's No. 1 Burnett est.... Drlg., 1,800 ft.

Midwest No. 1 Patton.... Drlg., 1,400 ft.

J. L. Pattison No. 1 Patton.... Drlg., 2,065 ft.

Phillips Petroleum No. 1.... Drlg., 2,870 ft.

Sinclair .... Drlg., 1,560 ft.

White Eagle No. 1.... Drlg., 2,010 ft.

Tidal Oil Co.'s No. 1 University, NW cor. NE Sec. 20, Blk. 8 .... Top salt, 1,302 ft; drlg., 2,485 ft.

REEVES COUNTY

Deep Rock Oil Co.'s No. 1 Caldwell, C SW Sec. 22, Blk. 58, T. & P. Sur., Twp. 8 .... Drlg., 3,580 ft.

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Pub. Sch. Ld.... Spudded 20 ft. and S.D.

Humble O. & R. Co.'s No. 1-B Kloh, C NE Sec. 47, Blk. 56, T. & P. Sur. T-2-S, elev. 2,781 ft.... 900 ft. sulphur water 1,760-1,800 ft; drlg., 2,200 ft.

World Oil Co.'s No. 1 Biggs, C SE Sec. 65, Blk. 112, Pub. Sch. Ld. Sur., elev. 3,068 ft.... S.D., 1,610 ft; tools moved to No. 1 Duff.

World Oil Co.'s No. 1 Duff.... T.D. old hole, 1,400 ft; C.O.

RUNNELS COUNTY

Associated Pet. Co.'s (was Bell & Moore's No. 1 W. W. King, 1,200 ft. W of NE cor. Lge. 14, J. V. Cobrera Sur.).... Spudded and S.D.

Moore & Bell's No. 1 Ferguson, 2,640 ft. S and 1,320 ft. E of NW cor. F. J. Ford Sur. No. 152.... Spudded and S.D.

Noble Oil Co.'s No. 1 Simms.... Spudded and S.D.

Lou Ladd et al's (was Frank Yates') No. 1 R. M. McMillan .... Small show oil and gas 545-62 ft. and 590 ft; drlg., 1,720 ft.

SCHLEICHER COUNTY

Beavers & Leath and others' No. 1 J. A. and W. T. Whitten, C NW Sec. 35, Blk. 11, T. O. Sur.... Spudded and S.D.

Thomas Grey et al's No. 1 Ball Robinson, C NW Sec. 25, Blk. M, G. H. & S. A. Sur.... Spudded and S.D.; drlg. water well.

SCURRY COUNTY

Northwest Co.'s No. 1 T. C. Stinson, NE NW SW, Sec. 101, Blk. 97, H. & T. C. Sur.... Tested 8 bbls. 1,745 ft; another pay at 3,402-07 ft; bailed 70 bbls. oil in 4 hrs. and bailed dry; drlg., 4,350 ft.

STERLING COUNTY

Inland Oil Co.'s No. 1 Durham .... New location.

J. P. Williams' No. 1 Clark, NE NE SW Sec. 7, Blk. 8, G. C. & S. F. Sur.... S.D., 1,020 ft. for casing.

L. Little's No. 1 Fisher Bros.... Rigged and S.D.

Orr et al's No. 1 Neal Reed, CNL, Sec. 15, Blk. 30, W. & N. W. Sur.... Rig.

STONEWALL COUNTY

R. F. Garland & Co.'s (was McCamey & Zoch's) No. 1 J. Ward, C SW Sec. 153, Mrs. Ward Dobbs Sur., 3 miles NW of Aspermont .... Drlg., 1,620 ft.

TAYLOR COUNTY

Brown Prod. Co.'s No. 1 Henslee.... Set 20-in. at 220 ft; S.D.

Dorning & Perrine's No. 1 J. A. Hammer, C N 100 acres, Sec. 23, Blk. 19, T. & P. Sur.; elev. 1,904 ft.... S.D., 455 ft.

Grisham & Hunter's No. 1 D. D. Huddleston, CWL Lot 29, League 146, Grimes Co. Sch. Ld.... Small show oil, 2,332 ft; S.D. for orders, 2,706 ft.

W. E. Halbert et al's No. 1 Hunt, C SE Sec. 124, Blk. 64, H. & T. C. Sur.... S.D., 1,610 ft.

Humble O. & R. Co.'s No. 1 Mattie Jacobs.... S.D., 2,350 ft.

Midwest Explin. Co.'s No. 1 Dora Smith, Jose Gabo. Sur.... Hole full salt water, 3,275-80 ft; S.D. for orders, 3,280 ft; enough gas to burn.

Midwest Explin. Co.'s No. 1 Toombes, Alex Thompson Sur. No. 37 .... Drlg., 2,220 ft.

Morrison & Thompson's No. 1 Mrs. Alice Rose, SW cor. NE Sec. 29, Blk. 19, T. & P. Sur.; elev. 1,925 ft.... Drlg. by 6-in., 2,539 ft.

Owen & Sloan's No. 1 Lattimer.... S.D., 930 ft, installing engine.

Roeser & Pendleton's No. 1 Sam Hutman, C W half NW Sec. 64, Blk. 5, T. & P. Sur.... S.D. for fuel, 710 ft.

Sanger O. & R. Co.'s No. 1 Ike Brown NE cor. Sec. 54, Blind Asylum Land .... S.D., 1,900 ft. tools in hole.

Sanger O. & R. Co.'s No. 1 Stem.... New location.

World Oil Co.'s No. 1 J. R. Griffith SW. cor. NE Sec. 32, Blind Asylum Land; elev. 1,747 ft.... S.D., 1,605 ft.

TERRY COUNTY

Kingsland Oil & Potash Co.'s No. 1 Brownsfield, C NW SW SW Sec. 7, Blk. 1-A, E. L. R. R. Sur.... S.D., 1,235 ft.

TOM GREEN COUNTY

Fitzgerald et al's No. 1 Bennett.... Spudded 90 ft. and S.D.

Marland Oil Co.'s No. 1 Llano, 3,500 ft. S and 13,000 ft. W of NE cor. Llano Co. Sch. Ld. No. 964.... Drlg., 2,840 ft.

UPTON COUNTY

Beaty et al's No. 1 J. F. Lane.... Top salt 880 ft; sulphur water 2,370 ft; show oil 2,250-66 ft; drlg. lime, 3,010 ft.

W. W. Donnelly et al's No. 1 University, C SW Sec. 21, Blk. 4, University .... Top salt 1,560 ft.; drilling 3,270 ft.

Hults et al's No. 1 Giddings, C Sub. Sec. 12, Throckmorton Co. Sch. Lnd. .... Top salt, 1,515 ft; S.D., 3,615 ft. for pipe.

Levi Smith and Marland's No. 1 University, C E half, Sec. 17, Blk. 5, University land.

Marland Oil Co.'s No. 3 Burleson, T. C. Jones Sur. No. 100 .... First pay 2,205 ft; sec. pay 2,395 ft; 2,000 ft. sulphur water 3,390-95 ft; 1,000 ft. sulphur water, 4,135 ft; drlg., 4,415 ft.

Marland Oil Co.'s No. 34 Burleson, Sec. 100, T. C. Jones Sur.... S.D., 3,255 ft.

Sartain & Davis' No. 1 Bull, SW NE Sec. 48, Blk. 41, T. & P. Sur.... Rig burned 3,290 ft; rebuilt.

Simms Oil Co.'s No. 1 B. C. Clark, NE cor. SW, Sec. 5, G. C. & S. F. Sur.; elev. 2,473 ft.... Top salt, 470 ft; top lime, 1,718 ft; sulphur water, 1,834-50 ft; S.D., 1,900 ft, flowing sulphur water.

The Texas Company's No. 19 King, Sec. 11.... Swabbed 70 bbls. oil and 140 bbls. sulphur water, 3,178 ft; hole full sulphur water, 2,465-75 ft. and 2,530 ft; show gas, 2,635 ft; more sulphur water, 3,654 ft; drlg., 2,973 ft.

VAL VERDE COUNTY

A. Blume et al's No. 1 Moore est., Sec. 183, J. Mitchell Sur.... S.D., 3,000 ft.

Curso Williams' No. 1 Holman, NE NE Sec. 5, Blk. N, G. H. & S. A. Sur.... Drlg., 2,920 ft.

Douglas Oil Co.'s No. 1 Sellars, C SE Sec. 82, Blk. A, I. & G. N. Sur.... Drlg., 2,940 ft.

East Del Rio Oil Co.'s No. 1 Russell, SE cor. Sec. 183, Del Rio Town Sur.... S.D., 3,142 ft; C.O.

Hiawatha Oil Co.'s No. 1 Sellars, C Sec. 1,031, Blk. A, I. & G. N. Sur.... Hole full salt water, 2,455 ft, straightening hole 2,600 ft.

Magnolia Pet. Co.'s No. 1 Whitehead, Sec. 81, Blk. D, G. C. & S. F. Sur.... Spud., 100 ft. and S.D.

Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I. & G. N. Sur.... S.D., 3,900 ft.

O. O. Owens' No. 1 Mills.... Flow, sulphur water, 2,300-25 ft, fish, 10-in. at 2,440 ft.

WARD COUNTY

Marland Oil Co.'s No. 1 J. Sealey, C SE Sec. 78, Blk. A, G. M. M. & A. Sur.; elev. 2,820 ft.... Hole full fresh water 970-80 ft; top salt, 1,100 ft; hole full sulphur water, 3,245-48 ft; run 6-in., 3,294 ft.

WINKLER COUNTY

Atlantic O. P. Co.'s No. 1 Hendricks.... Rig.

Champlin Drlg. Co.'s No. 1 C. W. Cowden, C SW Sec. 21, Blk. C-23, Pub. Sch. Ld., elev. 2,889 ft.... Hole full water, 2,385 ft; drlg. 2,385 ft.

Group 1 Humble O. & R. Co.'s No. 1 T. G. Hendricks, C SE Sec. 36, Blk. 27.... Drlg., 800 ft.

Humble O. & R. Co.'s No. 1 T. G. Hendricks, S and W NE cor. W half NE Sec. 33, Blk. B-5, Pub. Sch. Ld.. Rigging up.

Independent O. & G. Co.'s No. 1 Hendricks, Sec. 42, Blk. B-5, Pub. Sch. Ld. .... Top lime 2,720 ft; first gas 2,797 ft., 3,000,000 ft. at 2,815 ft, started spraying oil 2,824 ft; 700 ft. oil in hole, 2,877-83 ft; sec. pay, 3,049-60 ft; 300 ft sulphur water, 3,039 ft; plugged back to 3,075 ft. and shut off water; flowing and swabbing 60 bbls.

Independent O. & G. Co.'s No. 1 Hendricks-A.... Drlg., 400 ft.

Independent O. & G. Co.'s No. 2 Hendricks-A.... Rigging up.

Llano Oil Co.'s No. 1 Scarborough, C Sec. 1, Blk. C-22, Pub. Sch. Ld., elev. 2,921 ft.... Top salt 1,115 ft; hole full water 1,321 ft; 10-in set, 1,570 ft; set 8-in., 2,680 ft; top pay, 2,990 ft; T.D., 3,094 ft. in sand and shale; bailed 50 bbls. unable to lower 750 ft. oil in hole 35.2 deg. (corrected gravity).

McCullough Oil Co.'s No. 1 Tobe Morton, CEL Sec. 20, Blk. B-12, Pub. Sch. Ld. .... Hole full salt water, 1,940 ft; fish., 1,980 ft.

L. D. Ladd, Hill et al's No. 1 Amburgey, C NW Sec. 24, Blk. B-7, Pub. Sch. Ld. Sur., elev. 3,033 ft.... Top salt 1,220 ft; top lime 3,240 ft; T.D., 3,447 ft; rig burned.

R. S. Matthews et al's No. 1 State, C Sec. 7, Blk. A-57, Pub. Sch. Ld. Sur., elev. 3,120 ft.... Drlg., 500 ft.

Pure Oil Co.'s No. 1 Hendricks, SW cor. Sec. 41, Blk. B-5, Pub. Sch. Ld. .... T.D., 1,552 ft; U.R. 10-in.

Skelly Oil Co.'s No. 1 M. M. Leeman, 1,320 ft. east of SW cor. Sec. 21, Blk. 75, elev. 2,951 ft.... Top salt, 1,167 ft; drlg., 4,030 ft.

Southern Crude Oil Pur. Co.'s No. 2-C (was No. 3) Hendricks, Sec. 33, Blk. B-5 .... 2,000,000 ft. gas and good show l, 2,827 ft; drlg., 2,915 ft.

Southern Crude Oil Pur. Co.'s Ne. 3-C Hendricks, SE cor. NE Sec. 33, Blk. B-5 .... Top salt, 1,870 ft; T.D., 2,514 ft; standardizing.

Southern Crude Oil Pur. Co.'s No. 4-C Hendricks.... Spudding.

Southern Crude Oil Pur. Co.'s No. 1 Hendricks-B, SE cor. NE Sec. 44, Blk. 26.... Fish, drill pipe, 2,033 ft.

Southern Crude Oil Pur. Co.'s No. 1-F Hendricks.... Building rig.

Texon O. & L. Co.'s No. 1 Central State Bank SW cor. W half SE Sec. 41, Blk. B-5.... Drlg., 250 ft.

White Eagle O. & R. Co.'s (was Gibson & Johnson's) No. 1 R. A. Lock, 1,320 ft. west of NE cor. Sec. 30, Blk. 74, northwest of discovery well .... Drlg., 675 ft.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Jones, CSL Sec. 111, Blk. C, H. & T. C. Sur.... Drlg., 2,762 ft.

Deep Rock Oil Co.'s No. 1 Beavers, CSL Sec. 224, Blk. 44, elev. 1,441 ft .... T.D., 2,690 ft; rebuilding rig.

Deep Rock Oil Co.'s No. 1 Big Four, 1,270 ft. south and 2,590 ft. west of NE cor. Sec. 31, Blk. 4.... Fish. 12-in., 1,150 ft.

Humble O. & R. Co.'s No. 1 Goode, 1,940 ft. S and 200 ft. W of NE cor. Sec. 7, H. T. & B. Sur.... Small show gas, no oil, in sandy lime, 1,306-07 ft; U.R.

The Texas Company's No. 1 J. O. Bowden, Sec. 115, Blk. 45, H. & T. C. Sur. .... Location.

LOVING COUNTY

Kingwood Oil Co.'s No. 1 T. O. Moore, C NE Sec. 2, Blk. G-25, Pub. Sch. Ld.... S.D., 175 ft.

Owens & Sloan's No. 1 W. D. Johnson, C SE Sec. 20, Blk. 53, T-2, T. & P. Sur.... S.D. for 13-in., 700 ft.

LUBBOCK COUNTY

Sam Arnett and others' No. 1 Bowles Ranch .... S.D., 400 ft.

LYNN COUNTY

The Hart Oil Corp.'s No. 1 C. O. Edwards, NW NW Sec. 5, Blk. 2.... S.D., 1,400 ft.

MITCHELL COUNTY

California Co.'s No. 1 E. Morrison, Lease 1.... Pay, 2,947-3,100 ft; shot 320 qts. 800 ft. oil.

Robert Thraves' No. 1 C. Way.... Spudding.

Paul Teas' No. 1 Ed Strain.... Drlg., 3,300 ft.

Magnolia Pet. Co.'s No. 1 T. L. McKenney.... Drlg., 2,800 ft.

Tex-O-Kan Oil Co. and Robert Thraves' No. 1 W. F. Sanders .... Rigging up; new loc.

B. E. Walter and others' No. 1 J. E. Dollen, NW cor SW Sec. 11, Blk. 27, T. & P. Sur.... S.D., 3,955 ft.; hole full sulphur water.

J. C. Yancey's No. 1 Saunders, 400 ft. N and 1,700 ft. E of SW cor. Sec. 25, Blk. 25, T. & P. Sur. .... Spudded and S.D.

MOTLEY COUNTY

Chechaco Oil Co.'s (J. W. Pennington et al of Amarillo) No. 1 J. W. Owens, NW cor. Sec. 26, Blk. 4 (15,000-acre solid block) .... Drlg., 2,500 ft.

Explin. Co.'s No. 1 Burleson.... Spudded.

Explin. Co.'s No. 1 Tillson.... Spudded.

Wheeler et al's No. 1 C. D. Bird, C NE Sec. 4, Blk. S, Stephens Sur. .... Rig on ground.

NOLAN COUNTY

A. G. Malone et al's No. 1 J. B. Carlyle.... Location.

A. G. Malone et al's No. 1 M. C. McElmurry.... Spudded and S.D.

J. H. Winemiller Corp.'s (was Peters et al's) No. 1 Booth.... S.D., 960 ft. for water.

Thomas & Reynold's No. 1 Allen, C. W. ½ NW Sec. 58, Blk. X, T. & P. Sur .... Drlg., 2,965 ft.

Herbert Oil Co.'s (was McClesky and others') No. 1 Pepper, SE cor. SW Sec. 29, Blk. 22, T. & P. Sur.... Rigged up and S.D.

Phillips Pet. Co.'s No. 1 Scott, Sec. 58, Blk. 21, T. & P. Sur. .... Drlg., 2,930 ft.

Zweifel and others' No. 1 Longbotham, C SE Sec. 130, Blk. 1, H. & G. N. Sur.... S.D., 1,310 ft. for casing.

PECOS COUNTY

Geo. Anderson's No. 1 Sherbino Bros., CWL NW, Sec. 43, Blk. C-4, G. C. & S. F. Sur. .... Location.

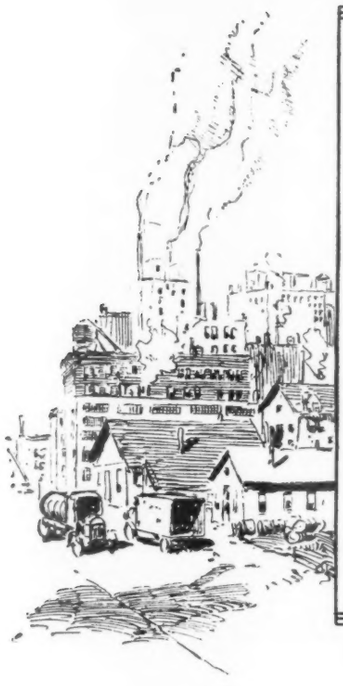
Allsman & Bell's No. 1 Pecos River Bed, 178 ft. E and 117 ft. S of NE cor. Sec. 60, Blk. 1.... Drlg., 510 ft; red rock; hole full water.

Benedum & Trees' No. 1 J. C. Trees, C NW SE SE Sec. 30, Blk. 7, H. & G. Sur., elev. 2,556 ft.... T.D., 3,115 ft; flowing sulphur water; fish. for 36 joints 6-in.

Buell and others' No. 1 Batcheler, C N half NE Sec. 89, Blk. OW, G. C. & S. F. Sur., elev. 3,188 ft.... Show oil 1,700 ft; flowed sulphur water, 1,775 ft; drlg., 2,200 ft.

Buell & Hagan's No. 1 McKenzie, Sec. 8, Blk. 604, Mrs. A. L. Canon Sur., elev. 3,009 ft.... Top salt, 1,170 ft; show gas, 2,140 ft; 1,000,000 ft. gas, 2,175-84 ft; top pay, 2,200 ft; 1,500 ft. oil in hole, 33 pct. water; fish. bit, 3,240 ft.

HOPE
VERTICAL
COMPRESSORS



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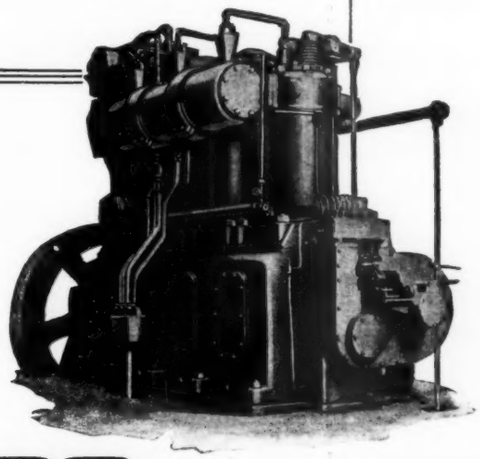

ENGINEERS CONTRACTORS

HOPE ENGINEERING AND SUPPLY COMPANY

DESIGNERS MANUFACTURERS

MOUNT VERNON, OHIO, U.S.A.

DALLAS, TEX. TULSA, OKLA. CASPER, WYO.

Buell & Hagan's No. 1 Jasper, 1 mile south and west NE cor. Jasper Co. School Land No. 104 — Location.
Cromwell & Kimberlin's No. 1 Blackman., C NW Sec. 24, Blk. 3, H. & T. C. Sur., elev. 2,393 ft. — Top salt, 890 ft; small show oil, 1,930 ft; half bailer oil, 1,948 ft; S.D., 2,113 ft. in lime.
M. C. Dibble & Hale's No. 1 Bonebrake — Rigged up and S.D.
Humble O. & R. Co. and Kirby Oil Co.'s No. 1 J. T. McElroy, NW SW SE Sec. 124, Blk. 10, H. & G. N. Sur. — Top salt, 835 ft; 500 ft. sulphur water, 1,990 ft; drlg., 2,000 ft.
Diamond Pet. Co.'s No. 1 Blackstone & Slaughter — Location.
Bob Elmore's No. 1 M. Holmes — Moving in material.
Garland & Mott's No. 1 El Paso Cattle Loan Co., C NE Sec. 26, Blk. 124, T. & S. L. Sur. — Location.
Kershaw & Livingston's No. 1 Cannon, SW cor. NE Sec. 54, Blk. A-2, T. C. K. R. Sur. — Location.
Mid-Kansas O. & G. Co.'s No. 1 Smith Taylor, elev. 2,645 ft. — Drlg., 1,168 ft; 1,000,000 ft. gas, 1,160 ft.
Mid-Kansas and Transcontinental's No. 2 Yates-B, 1-320 ft N and E of SW cor. Sec. 61 — Rigging up.
Olean Pet. Co.'s No. 1 Arthur Harral, C SE, Sec. 98, Blk. A-2, T. C. R. R. Sur. — Location.
Olean Pet. Co.'s No. 1 G. A. Harral, C SW, Sec. 82, Blk. B-3, G. C. & S. F. Sur. — Location.
Olean Pet. Co.'s No. 1 Sherbino Bros., C NW, Sec. 31, Blk. C-4, G. C. & S. F. Sur. — Location.
Pecos Big 3 Oil Co.'s No. 1 Robertson — Location.
Pecos Big 3 Oil Co.'s No. 1 I. G. Yates — Location.
Quinby Oil Co.'s No. 1 Townsite, Sec. 1, Blk. 267, Client Addition Sur. Ft. Stockton — S.D., 3,440 ft.
Quinby Oil Co.'s No. 2 Bennett, C NW 592, Blk. 105, G. C. & S. F. Sur., elev. 2,560 ft. — 200 ft. oil in hole from 1,216 ft.; shot 20 qts. 1,208-20 ft; hole full sulphur water, 1,452 ft; T. D., 1,457 ft; shot 130 qts., 1,-353-60 ft; no results.
Quinby Oil Co.'s No. 1 A. A. Gray, 660 ft. north and 1,320 ft. east SW cor. Sec. 593, Abst. 3,009 — Drlg., 610 ft.
Red Bank Oil Co.'s No. 1 Arthur Harral, C SE. Sec. 35, Blk. C-4, G. C. & S. F. Sur. — Location.
Seventy-Five Oil Co.'s No. 1 F. A. Perry, C SE NW, Sec. 19, Blk. 178, T. E. R. R. Sur. — Drlg., 580 ft.
W. R. Shankel et al's No. 1 I. G. Yates, CSL SW SE SE, Sec. 53, Blk. 1, I. & G. N. Sur. — Top salt, 425 ft; drlg., 600 ft.
Texon O. & L. Co.'s No. 2 I. G. Yates — Rainbow show, 1,075 ft; show oil, 1,243 ft; S.D., 1,500 ft.
Texon O. & L. Co.'s No. 3 I. G. Yates — Location.
Texon O. & L. Co. and Marland Oil Co.'s No. 1 Blakesley, SW cor. Sec. 90, Blk. 11, H. & G. N. Sur. — Top salt, 840 ft; drlg., 1,625 ft.
John Dropplemann's No. 1 Mrs. L. Hershenson, Sec. 7, Blk. 51, T. & P. Sur. T-10 — Drlg., 1,940 ft.
World Oil Co.'s No. 1 Serf, SW cor. NE Sec. 10, Blk. 130, T. & St. L., elev. 3,425 ft. — Location.

PRESIDIO COUNTY

Headlock & Miller's No. 1 Tootle est. — C.O., 2,550 ft.

REAGAN COUNTY

Nenshaw & Camp's No. 1 Union — New loc.

WILDCAT OPERATIONS IN PANHANDLE

(Continued from Page 48)

DALLAM COUNTY

James et al's No. 1 fee, Sec. 9, 47⅛ — Fishing 2,870 ft.
Harry Skelly et al's No. 1 Capitol Synd., Sec. 19, Blk. 17 — Shut down 2,600 ft.
Marland Oil Co. et al's No. 1 Capitol Syndicate, Sec. 36, Blk. 18, Capitol Syndicate land — Shut down 950 ft.

DEAF SMITH COUNTY

Julian & DeGrace's No. 1 Mrs. R. A. Hindley, Sec. 47, Blk. K-8 — Shut down 520 ft. for casing.
Red Hill Oil Corp.'s No. 1 Barrett, Sec. 93, Blk. K-4 — Shut down 710 ft.

DONLEY COUNTY

A. T. Drilling Co.'s No. 1 F. E. Harington, Sec. 39, Blk. 3-C — 1,200 ft. water from 3,115-22 ft.; show gas 3,140-60 ft.; dry gran ite wash 3,260-93 ft.; shut down to recement 6⅝-in. casing.

GRAY COUNTY

Atlantic O. P. Co.'s No. 1 Combs & Worley, NW cor. NE Sec. 39, Blk. 3 — New location; building rig.
Archer, Blake et al's No. 1 Turneau, Sec. 111, Blk. 3-B — Spudded and shut down.
Amos et al's No. 1 Crews, NW cor. Sec. 9, Blk. 25 — Shut down 865 ft.; fishing tools.
Bay Shore Oil Co.'s No. 1 C. W. Bradford, Sec. 143, Blk. 2-B — Total depth 2,666 ft.; gas shut in and work suspended.
British-Amer. O. Co.'s No. 1 J. E. Meers, Sec. 107, Blk. 3 — 58,000,000 ft. gas and slight spray oil; shut down 3,190 ft.; will possibly complete as gasser.
British American Oil Co.'s No. 1 J. M. Patton, Sec. 61, Blk. B-2 — Rigged and shut down.
Cole O. & G. Co.'s (was Magdalene Oil Co.'s) No. 1 J. E. Williams, Sec. 17, Blk. 1 — Fighting cave 3,615 ft.
Jack Doyle's No. 1 D. W. Osborne, SE cor. Sec. 109, Blk. 3 — Rig.
Edwards et al's No. 1 E. J. Case — Building rig.
Empire Gas & Fuel Co.'s No. 1 J. E. Cubine — Spudding.
Empire G. & F. Co.'s No. 1 J. A. Hood, SW cor. SE. Sec. 33, Blk. 3 — New location.
Empire G. & F. Co.'s No. 1 J. M. Saunders, S W cor. SE. Sec. 4, Blk. 3 — New location; rig on ground.
Empire G. & F. Co.'s No. 1 J. F. Meers, NE cor. SE Sec. 107, Blk 3 — 20,000,000 ft. of gas at 2,770 ft.; drilling at 3,850 ft.; 10,000,000 ft. gas this depth.
Empire G. & F. Co.'s No. 1 J. J. Wall, Sec. 161, Blk. 3 — Total depth 2,930 ft.; shut down; 43,000,000 ft. gas; closed in; to drill deeper.
Empire G. & F. Co.'s No. 1 Webb, SW cor. Sec. 59, Blk. 25 — Show of oil 2,457 ft.; fishing for bit 3,453 ft.
Gladis Gray's No. 1 Colebank-Morse (was Foster et al's No. 1 G. Cutebank), SW cor. NE Sec. 65, Blk. 25 — Show oil at 2,792-95 ft.; drilling 2,835 ft.
Gray County Pet. Co.'s No. 1 Herndon, Sec. 147, Blk. 3 — Shut down 2,495 ft. for water.
John G. Lane's No. 1 A. Chapman, Sec. 19, Blk. A, C. & H. B. Sur. — Total depth 3,300 ft.; 5 3/16-in. casing parted; fishing.
Nelson Holding Co.'s No. 1 W. P. Dial, C NE SW NW, Sec. 48, Blk. 25 — New location; rig on ground.
Neudigate et al's No. 1 A. Chapman, NE cor. E ½ SE Sec. 52, Blk. 25 — Shut down for 10-in. 1,040 ft.
Pampa Oil Co.'s No. 1 W. R. Campbell, Sec. 90, Blk. 3 — Drilling 875 ft.
Pampa Pet. Co.'s No. 1 Mary Leopold, Sec. 141, Blk. 3 — Water from 3,320-60 ft.; shut down 3,460 ft.
Petroleum Explor. Co.'s No. 1 L. C. McConnell, SE cor. NW, Sec. 174, Blk. 3 — New location; rig on ground.
Purple Sage Oil Co.'s No. 1 Johnson, Sec. 8, Rockwell County school land — Shut down 2,300 ft. for orders, with water increase.
Riley & Heck's No. 1 Mrs. Hopkins, Sec. 66, Blk. 2-B — Show of oil 3,020 ft.; running 6-in.
Rensoul Pet. Co.'s (was Salisbury & Reynold's) No. 1 M. Huselby, C SE NE NE Sec. 55, Blk. 25, H. & G. N. — Drilling 1,905 ft.
Roxana Petroleum Corp.'s No. 1 Combs & Worley, NE cor. NW, Sec. 39, Blk. 3 — New location; rig on ground.
Roxana Petroleum Corp.'s No. 1 R. S. McConnell, NE cor. E half SW, Sec. 174, Blk. 3 — Rig on ground.
C. R. Shafer's No. 1 G. Cole, SE cor. W ½ SW Sec. 105, Blk. 3 — Little oil in hole 3,252 ft.; swabbed dry with two swabs; drilling ahead.
Sullivan et al's No. 1 fee, NW cor. E half SW, Sec. 1 Blk. 1, A. C. H. & B. Sur. — New location.
The Texas Company's No. 1 J. B Barrett, NE cor. NW Sec. 130, Blk. 3 — Drilling 2,955 ft.
The Texas Company's No. 3 Saunders, C E ½ Sec. 3, B. & B. Sur. — 11,000,000 ft. gas 2,395-2,415 ft., shot 120 quarts 2,550-80 ft., cleaning out; 12,000,000 ft. gas at 2,535 ft.; 800 ft. salt water at 2,972 ft.; plugging back.
J. Williams et al's No. 1 C. W. Bradford, Sec. 123, Blk. B-2 — Rig on ground.

HALL COUNTY

Seifert and others' No. 1 Owens, C NE Sec. 179, Blk. S-5, Dennison & Pacific Sur. — Spudded and shut down.

HARTLEY COUNTY

Amerada Pet. Corp.'s No. 1 Frances Farwell, Sec. 27, Blk. 16 — Shut down at 3,511 ft., contract depth.
Deep Rock Oil Co.'s No. 1 Lyman & Balfour, Sec. 9, Blk. 2 — Shut down 2,483 ft.
Eslick et al's No. 1 J. B. Irving, Sec. 13, Blk. 13 — Drilling 3,045 ft.
J. E. McKanna's No. 1 Frances Farwell, Sec. 30, Blk. 22 — Drilling 1,550 ft.
J. E. McKanna's No. 1 J. M. Shelton estate, Sec. 29, Blk. 202 — Shut down 3,595 ft., casing trouble.

HEMPHILL COUNTY

Sun Oil Co.'s No. 1 Worley & Reynolds — Fishing 2,870 ft.
A. J. Calhoun's No. 1 J. C. Isaacs, Sec. 189, Blk. C — Spudded and shut down.
Hoover et al's No. 1 Schaller estate, Sec. 4 — Spudded and shut down.
Hoover et al's No. 1 fee, J. S. Hood Sur. — Straightreaming 4,400 ft. for 5 3-16 in. pipe.

HUTCHINSON COUNTY

Amarillo Oil Co.'s No. 1 Ida Ingerton — Shut down 1,285 ft.
Anderson & Pritchard's No. 2 William Yake, SW cor. NW, Sec. 1, Blk. J. H. & G. N. Sur. (one-half mile west of No. 1 — New location; building rig.
Berryman Oil Co.'s No. 1 Sanford, Sec. 83, Blk. 46, H. & T. C. Sur. — Fishing at 2,855 ft. for bailer.
Conklin et al's No. 1 Johnson, Sec. 1, Blk. XO3, H. & O. B. Sur. — Shut down 600 ft. for 12-in.
Great Plains Oil Co.'s No. 1 Lee Bivins, Sec. 13, Blk. Y2, T. T. R. R. Sur. — Drilling 2,325 ft.; show gas.
Great Plains Oil Co.'s No. 1 Kingland, Sec. 4, Blk. Y — Drilling 950 ft.
Dominion Oil Co.'s No. 1 Jasper, Sec. 23, Blk. M-23 — Shut down 3,137 ft. for storage.
Golden Eagle Oil Corp.'s No. 1 J. Q. Bost, Sec. 6, Blk. Y-2 — Derrick.
Marland Oil Co.'s No. 1 Carver, William Heath Sur. — Run 5-in. 3,530 ft.
Panfield Oil Co.'s No. 1 Luginbyhl Brothers, Sec. 50, Blk. M-23 — Shut down 1,200 ft.
Pole Cat Oil Co.'s No. 1 W. B. Haile, Sec. 24, Blk. M-21 — Rig; spudding.
Phillips Pet. Co.'s No. 1 Yake, Sec. 36, Blk. 46 — Drilling 2,620 ft.
Prairie Oil & Gas Co.'s No. 1 J. M. Sanford, SW cor. N half Sec. 85, Blk. 46 — Drilling 730 ft.
Prairie Oil & Gas Co. and Vacuum Oil Co.'s No. 1 Cal Merchant — Drilling 2,220 ft.
Skyrocket Oil Co.'s No. 1 Mrs. R. A. Jameson — Fishing 2,512 ft.
Sweeney et al's No. 1 Johnson, Sec. 38, Blk. Y — Shut down 1,780 ft.
U. S. Oil Corp.'s No. 1 Johnson, Sec. 35, Blk. Y — Shut down 800 ft. for casing.
Vitek Oil Co.'s No. 1 W. F. Allen, Jose Rodriguez Sur. — Shut down 180 ft.

LIPSCOMB COUNTY

Camp Creek Oil Co.'s No. 1 Mrs. H. D. May, Sec. 612, Blk. 43 — Bailing 600 ft.
McCorkle's No. 1 A. Barton — Fishing 3,760 ft.
Smith, Kinsley & Ruby's No. 1 C. W. Jones, NE cor. SW Sec. 100, Blk. 43 — Shut down 1,610 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 2 Terry Thompson, Sec. 19, Blk. 44 — Making 34,000,000 ft. gas; shut down 3,300 ft.
Douglas Oil Co.'s No. 1 H. M. Beauchamp, Sec. 112, Blk. 44 — Drilling 3,000 ft.
Marland Oil Co.'s No. 1 J. T. Sneed, Jr., Sec. 35, Blk. 1 — One-half bailer water per hour at 3,152-3,202 ft.; shut down 3,355 ft.
Morton & Co.'s No. 1 Reeder, Sec. 191, Blk. 3-T — Drilling 3,185 ft.
Moore County Oil Co.'s No. 1 Sneed, Sec. 30, Blk. 6-T — Drilling 2,025 ft.
Shadler Brothers' No. 1 John Lowery, Sec. 237, Blk. 44 — Shut down 1,365 ft.; 12½-in. casing froze.
Skelly Oil Co.'s No. 1 Armstrong & Byrd — Shut down 560 ft.
Prairie O. & G. Co.'s No. 2 O. E. Gober — Rig.
Prairie and Shamrock's No. 2 Gober, Sec. 16, Blk. M-21 — Building rig.

OCHILTREE COUNTY

W. G. Burton's No. 1 Stickler, Sec. 679, Blk. 43 — Running 5-in. to 3,200 to cut off salt water; total depth 3,830 ft.
Hamilton et al's No. 1 R. E. Wamble, Sec. 144, Blk. 43 — Shut down 250 ft.
McCorkle Pipe Line Co.'s No. 1 R. H. Moore, Sec. 471, Blk. 43 — Shut down 1,600 ft.
McCorkle's No. 1 Weinett, Sec. 674, Blk. 43 — Spudded and shut down.
Standard Dev. Co.'s No. 1 Bowden, Sec. 923, Blk. 43 — Shut down 900 ft.

OLDHAM COUNTY

Prairie O. & G. Co.'s No. 1 Landergin, SE cor. NE SW Sec. 46, League 310, Capital land — Running 8-in. 3,300 ft.; 8-in. set 3,351 ft.; shut down 3,540 ft.
Humble O. & R. Co.'s No. 1 Farwell, elev. 4,605 ft — Shut down 2,885 ft.

POTTER COUNTY

Greater Amarillo Pet. Co.'s No. 1 Townsite, Sec. 167, Blk. 2, A. B. & M. Sur. — Shut down 2,020 ft.; temporarily abandoned.
Farmer O. & G. Co.'s No. 1 J. A. Jones, Sec. 3, Blk. 1 — Shut down 200 ft.; temporarily abandoned.
Kelmey Oil Co.'s No. 1 W. H. Bush, Sec. 19, Blk. 9 — Rig; temporarily abandoned.

RANDALL COUNTY

Patterson et al's No. 1 Campbell & McIlroy, NE cor. Sec. 60, Blk. K-14, T. T. R. R. Sur. — Spudded and temporarily abandoned.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Sec. 7, Blk. 5-A — Drilling 4,960 ft.
Dunbar's No. 1 H. A. Gill, Sec. 127, Blk. M-2 — Cellar; temporarily abandoned.
Gibson Oil Corp.'s No. 1 T. S. Jones — Salt water 4,143-60 ft.; fishing 4,220 ft.
Murphy et al's No. 1 Gill, Sec. 31, Blk. M-2 — Shut down 650 ft.
Charles Page et al's No. 1 Hamilton, Tract 2, Clay County school land — Shut down 440 ft.
C. C. Wilson, No. 1 A. H. Tandy, NE cor. Sec. 182, Blk. 42, H. & T. C. Sur. — Location.

SHERMAN COUNTY

Gibson Oil Co.'s No. 1 Bivins, Sec. 35, Blk 3-B — Fishing 1,200 ft.
Hagy & Harrington's No. 1 S. F. Flores, C SW Sec. 64, Blk. 3-T, T. & N. O. Sur. — Spudded and shut down.
Phillips Pet. Co.'s No. 1 Price & Fuqua, C NE Sec. 33, Blk. 2-B, G. H. & H. Sur. — Rigged.
Whitehead et al's No. 1 Lee Bivins, C SW Sec. 36, Blk. 2, G. H. & H. Sur. — Location.

SWISHER COUNTY

R. H. Miller's No. 1 Todd — Location temporarily abandoned.

WHEELER COUNTY

American Ref. Co.'s No. 1 E. E. Carlton, Sec. 29, Blk. 13 — Shut down 2,029 ft.; 8,000,000 ft. gas, show of oil 2,027 ft.
Angus et al's No. 1 G. A. Morgan, SW cor. SW NE Sec. 93, Blk. 17 — Making 24,000,000 ft. of gas at 1,800-95.; shut down 1,895 ft.
Boyles & Johnson's No. 1 S. L. Lewis, Sec. 40, Blk. 24 — Fishing for bit 3,400 ft.
Foster et al's No. 1 S. H. McDonald, SE cor. NW SW. J. N. Lindsay Sur. — Spudded and shut down.
Marland Oil Co.'s No. 2 W. E. Bentley — Show gas 2,205 ft.; shut down by agreement.
J. J. Rook's No. 1 M. Mertel, SE NE Sec. 4, Blk. 24, H. & G. N. Sur. — Shut down 1,400 ft.
J. J. Rook Co.'s No. 1 T. C. Jones, Sec. 1, Blk. 34 — Fishing casing 1,300 ft.
J. J. Rook's No. 1 C. W. Porter, SW cor. NW Sec. 41, Blk. 24 — Shut down 2,300 ft. by agreement.
Wheeler O. & G. Co.'s No. 1 P. J. Sorenson, Sec. 53, Blk. A-4 — Spudded and shut down.
Smith, Brady et al's No. 1 P. J. Sorenson, Sec. 53, Blk. 4-A — Shut down 2,112 ft. for orders.
E. L. Woodley, Jr., No. 1 Woodley, Sr., Sec. 13, Blk. 5-A — Show oil 2,227 ft., drilling 2,240 ft.
Watchorn O. & G. Co.'s No. 1 F. E. Shelton, C NE NE Sec. 22, Blk. 24 — First gas 1,893-97 ft.; 40,000,000 ft. gas 1,905-26 ft.; shut down.
The Texas Company's No. 1 B. P. Sewell — Spudded.
Tidal Oil Co.'s No. 1 W. E. Bentley — Fish, 10-in. 1,431 ft.

"You no longer need to say, 'Co₂ Meters may be all right, but—'

"Here is a Co₂ Meter that *is* reliable and simple to operate."

No chemicals to fuss with. No expert operator needed. Works on the thermal-conductivity principle. Now you really can get the benefit of CO_2 readings, because the Brown Electric CO_2 Meter is so thoroughly reliable. Just look at the indicator or read the chart.

The several distinct advantages of the thermal-conductivity principle, found only in the Brown Electric CO_2 Meter, are described in detail in an interesting and informative catalog —No. 33. Sent promptly on request.

"To Measure is to Economize"—*Pascal.*

Measure Co_2 with

THE BROWN INSTRUMENT COMPANY
4412 Wayne Avenue Philadelphia

Offices in 18 principal cities

Brown Electric CO_2 Meter

OIL is not an inexhaustible or replaceable commodity The present wasteful flood of production will subside, but the loss for the future through the waste of the present will be irremediable

Our future National safety depends largely on an ample, continuous supply of liquid fuel for our ships, our aircraft, our automobiles and our trucks

Whatever is essential for the Nation's safety and protection is the Nation's business and if the industry won't do the needful to insure such protection the State and Federal Governments surely can and will

When everybody talks about the need of regulation for control

of oil production, somebody is likely to do something If it isn't a leader in the industry it will be a leader in the National government

It can best be done by the industry, but Federal control will be better than no control at all

Our Constitution maintains individual and property rights as sacred But the rights and needs of the Nation, under this same Constitution, are nevertheless paramount and controlling

Universal Oil Products Company
Owner of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

NO-OX-ID
IRON + OX = RUST
TRADE MARK
The Original Rust Preventive

Stops Hydrogen Sulphide on Tank Roofs

Supplementing our recent page announcement of the value of NO-OX-ID in protecting steel roofs of tanks, this very recent report of actual field service by our Mr. Cushing will prove of interest.

"Just had nice report from Messrs. P— and S— of the —— Pipe Line Company. Ten thousand barrel tank, steel roof of which was badly pitted and corroded from attack of Hydrogen Sulphide Gas and on which NO-OX-ID "A" Special was applied sixteen months ago, shows on recent inspection that no further deterioration has taken place on roof and structural supports, while the coating of NO-OX-ID is in fine shape with no visible indication of slippage of NO-OX-ID from roof. Mr. S— advises they are well pleased with functioning of NO-OX-ID, indicating that all pitting was arrested.

"Mr. P—reports that two tanks in the —— field, Texas, roofs of which were treated with NO-OX-ID "E" seven months ago, on inspection at regular intervals show absolutely no attack from Hydrogen Sulphide Gas and NO-OX-ID coating shows no attack or slippage."

Our products serviced by experts. Write us so we can get in touch with you.

Dearborn Chemical Company
310 S. Michigan Ave., Chicago
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Canadian Headquarters:
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and
NO-OX-IDized
Wrapper

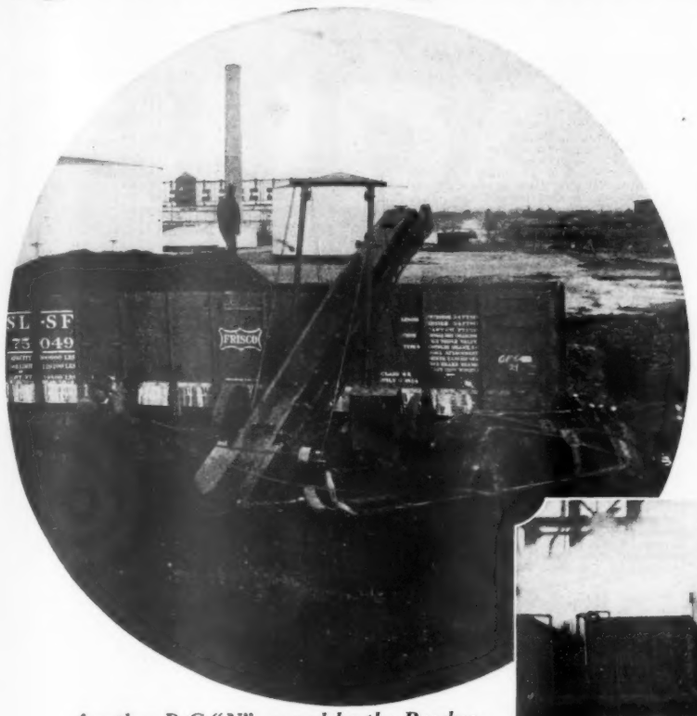
DEARBORN CHEMICAL COMPANY NO-OX-ID-IZED WRAPPER NEW YORK CHICAGO

TEXAS GROSS PRODUCTION, FIRST QUARTER

(Continued from Page 76)

Name and Address—	Barrels	Value
Electra Callahan Oil Co., Electra	1,208.44	2,228.56
Eason, T. T., Enid, Okla.	1,460.45	1,338.12
Evans Oil Co., San Antonio	4,822.67	6,139.47
Eastland Oil Co., Fort Worth	124,378.07	133,625.46
Eggers, J. E., trustee, San Antonio	1,013.38	1,508.98
Erie Investment, Ltd., of Texas, Toronto, Canada	703.59	1,285.61
Earnest, Herman, Ranger	127.08	223.25
Emrick, U. R., Chicago, Ill.	602.64	1,066.91
Ellison Oil Co., Rockdale	763.46	
Erickson, David, Wichita Falls	3.54	6.19
Empire Gas & Fuel Co., Bartlesville, Okla.	584,548.40	763,361.76
Ellis & Lancaster, Beaumont	561.21	738.39
Engel, E. A., Albany	1,759.74	2,840.05
F		
Fuqua & Hipp, Grandfield, Okla.	1,705.69	2,529.90
Four Oil Co., Wichita Falls	3,190.12	5,924.92
Four Oil Co. (Quar. end. 12-31-26), Wichita Falls	4,844.92	10,858.72
Ferguson, W. R., Wichita Falls	785.04	1,514.39
Foster & Sandford, Fort Worth	738.48	1,108.27
Florence Oil Co., Oklahoma City, Okla.	3,814.83	7,721.68
Fuchs, Fritz, Taylor	246.00	388.00
Fischer, H. J., estate, Newport, N. Y.	1,878.56	3,779.50
Fogle Oil Co., Minerva	2,306.00	4,058.97
Freeman Hampton Oil Corp., Wichita Falls	10,828.76	18,653.01
Farlyn Oil Co., Houston	40,828.72	50,417.68
Ferguson, Hawkins & Hester, Wichita Falls	1,620.26	3,079.78
Franchot, D. W., & Co., Tulsa, Okla.	134.33	219.80
Flynn, W. B., Beaumont	4,367.65	6,207.84
Fleming & Kimbell, Sherman	15,280.54	14,375.46
Five Rivers Oil & Gas Co., Wichita Falls	849.21	1,602.19
F. H. E. Oil Co., Sherman	25,635.39	32,013.70
Fain McGaha Oil Corp., Wichita Falls	15,726.267	268,790.40
Fensland Oil Co. of Texas, Denver, Colo.	7,427.64	12,882.27
Farish & Ireland lease, Houston	5,128.23	6,603.71
Fresno Oil Co., Wichita Falls	19,521.11	35,918.84
Ferguson & Watson, Electra	2,012.14	3,773.03
Frontier Oil Co., San Antonio	16,570.06	23,866.26
Fisher, R. E., trustee, Burkburnett	894.93	1,342.47
Foster-Townsend & Ungren & Frazier, Futn m	3,117.00	5,891.54
Fountain Production Co., Saratoga	3,790.16	5,083.31
Fort Ring Oil & Gas Co., Fort Worth	802.83	1,854.26
G		
Glasscock Sump Oil Co., Lytton Springs	357.81	411.48
Gohman Oil Co., Rockdale	1,314.49	2,105.46
Gordan, H. B., Jr. (Quar. end. 12-31), Houston	22,084.05	43,004.82
Golconda Oil Co. No. 1, Wichita Falls	215.09	451.99
Gates-Bacon-Lea, Wichita Falls	33,668.92	59,535.50
Galena-Signal Oil Co. of Texas, Houston	68,962.87	99,446.69
Gultex Production Co., Waxahachie	4,417.72	8,278.42
Gordon, H. B., Jr., Houston	6,950.39	12,643.58
Goldsmith, N. D., Olney	1,557.35	2,872.06
Gilbert Co., The, Beaumont	6,865.65	9,171.03
Gohlke, F. H., Wichita Falls	48.00	73.26
Gulf Coast Oil Corp., Houston	16,671.24	22,560.10
Glass Brothers, Rosebud	1,049.59	1,879.81
Gaither Production Co., Rockdale	3,064.48	5,635.60
Gray, T. H., Fort Worth	880.45	1,250.85
Gladis Oil Co., Saratoga	814.08	813.84
Goldellini Oil Corp., Oklahoma City, Okla.	19,063.87	22,553.73
Gallagher & Lawson, Desdemona	188.80	277.54
Gordon Oil Co., The, Logan, Ohio	77.08	134.59
Grand Duke Producing Co., Muskogee, Okla.	173.62	293.99
Grady, D., Electra	850.00	1,575.60
Green, W. J., et al, Wichita Falls	188.94	356.75
Graham & Lash, Moran	953.68	1,713.32
Gutzler & Cottingham, Indianapolis, Ind.	43.88	75.18
Gillispie, R. J., estate, Cisco	8,685.72	16,686.02
General Oil Co., The, Houston	333.77	642.18
Gunn Production Co., Cross Plains	5,452.00	9,532.98
Ginter-Lang Oil Co., San Antonio	2,120.00	3,444.00
Galvez Oil Corp., Tulsa, Okla.	4,878.54	8,579.33
Gates Oil Co., Ardmore, Okla.	4,763.55	9,412.77
Gilman & Conway Brothers, Ranger	14,331.85	28,418.24
Godley Oil & Gas Co., Dallas	11,891.45	20,877.52
Glenridge Oil Corp., St. Louis, Mo.	4,588.23	8,851.17
Gilliland Oil Co., Tulsa, Okla.	920.29	2,095.17
Gibson Oil Corp., Amarillo	69,033.76	92,788.69
Golding-Phillips Oil Corp., Amarillo	2,591.81	3,168.18
Gladys Belle Oil Co., Tulsa, Okla.	14,264.12	25,130.70
Gopher Oil Co., Amarillo	3,000.00	2,850.00
Gutzler, W. T., Wichita Falls	174.34	299.98
Golden West Oil Co., San Antonio	24,882.08	35,490.93
Guthrie, Cole & Ferguson, Wichita Falls	1,585.84	2,768.06
Godfrey, F. L., Enid, Okla.	125.32	226.03
Group No. 1 Oil Corp., Big Lake	727,405.13	1,109,326.84
Goldenrod Oil Co., Dallas	69.92	132.85
Goolsbee & Graham, Wichita Falls	150.48	261.38
Goolsbee & Goolsbee, Wichita Falls	179.25	358.51
Graham, H. L., Wichita Falls	1,185.28	2,135.88
Gardner Brothers & Collins, Wichita Falls	1,124.46	2,115.16
Golding & Cochran, Wichita Falls	14,438.20	24,544.94
Glasscock Leasing Syndicate, San Antonio	2,310.52	3,594.77
Guaranty Oil Co., Electra	142.48	291.20
Gholson, Morman, Dorsey et al (12-31-26), Ranger	2,996.13	6,952.68
Glasscock, Rosa V., San Antonio	688.75	1,028.98
Gholson, Moorman, Dorsey et al, Ranger	2,156.36	4,232.46
Granite Oil & Gas Co., Ridgeway, Colo.	398.03	751.98
Gholson, Thompson, Barkley & Crotty, Ranger	5,004.34	8,967.24
Grayburg Oil Co., San Antonio	253,778.15	329,147.32
Gwynn, P. F., agent, Wichita Falls	2,109.30	3,848.37
Gwynn-Boyd Drilling Co., Wichita Falls	29,179.77	35,379.21
Gwynn, P. F., Wichita Falls	177.66	192.68
Gholson, John M., et al, Ranger	73,255.55	131,963.68
Grayce Oil Co., Wichita Falls	31,867.29	59,427.91
Gilliam Logan Oil Co., Fort Worth	3,469.28	4,937.44
Gates Oil Co. (Wyoming Corp.), Denver, Colo.	18,490.08	21,727.94
Gulf Production Co., Houston	5,333,581.55	7,393,366.23
H		
Hickok Producing & Development Co., Toledo, Ohio	308.74	458.94
Haggard, J. E., Wichita Falls	308.00	395.00
Hope Petroleum Corp., Tulsa, Okla.	55,323.04	97,479.52
Hardy Oil Co., Wichita Falls	3,729.74	6,900.01
Harrell, Tom, et al (12-31-26), Eastland	751.94	1,666.80
Haynes, J. H., De Leon	4,020.78	8,577.66
Harvey, R. A. (12-31-26), Houston	2,380.00	3,332.00
Houseman, D. H., & Co., Dallas	28.70	57.91
Hamilton, Robert, et al, Eastland	507.00	937.95
Hub Oil Co., Dallas	365.27	692.02
Hemby, J. M., Electra	992.72	1,859.05
Howell, J. H., trustee, Electra	216.76	384.04
Hickory Oil & Gas Corp., Fort Worth	45.75	57.64
Harvey, R. A., Houston	2,440.00	2,226.10
Houston Oil Co. of Texas, Houston	20,285.96	29,441.40
Hamilton, Walter R., executor, San Antonio	6,906.29	11,111.15
Hammond, J. C., Wichita Falls	426.48	854.41
Hooser, John W., Dallas	17,612.80	30,258.09
Hooser Oil Co., Dallas	5,093.93	9,313.11
Huber, J. M., Co. of Louisiana, Inc., Breckenridge	1,347.18	2,305.55
Houghland Production Co., Ponca City, Okla.	1,467.41	2,318.50
Hamilton & Martin, Wichita Falls	1,746.18	3,090.74
Helvetia Oil Co., San Antonio	16,949.69	25,795.62
Hobbs Oil Co., Tulsa, Okla.	6,886.59	12,241.52
Hyde Production Co., Houston	7,961.67	11,791.28
Howard, Duffield & Berlin, Tulsa, Okla.	1,357.22	1,981.81
Humphreys & Merritt, Wichita Falls	2,186.09	3,721.60
Hope Oil & Gas Co., Fort Worth	35,512.91	61,318.81
Hyde & James, Albany	28,628.42	52,886.14
Hull Oil Co., Houston	25,051.29	35,669.66
Helf, C. H., Albany	1,556.86	2,413.13
Howard Petroleum Corp., Tulsa, Okla.	810.00	1,379.72
Howell, M. L., Lohn	1,043.90	1,990.94
Hobson & Voorhees, San Antonio	1,007.71	1,706.22
Herbert Oil Co. of Texas, Fort Worth	1,776.50	2,942.30
Henderson, E. R., Tulsa, Okla.	100.12	168.75
Humble Oil & Refining Co., Houston	2,596,456.52	4,167,265.98
Holloway, R. R., receiver, Brownwood	639.32	1,189.13
Hester, Hawkins & Ferguson, trustees, Wichita Falls	2,713.97	4,810.32
Hyer, Fred, Fort Worth	199.50	393.02
Harris Fisher Oil Co., Cisco	914.98	1,716.56

Speeding Up Coke and Oxide Handling with Fewer Dollars



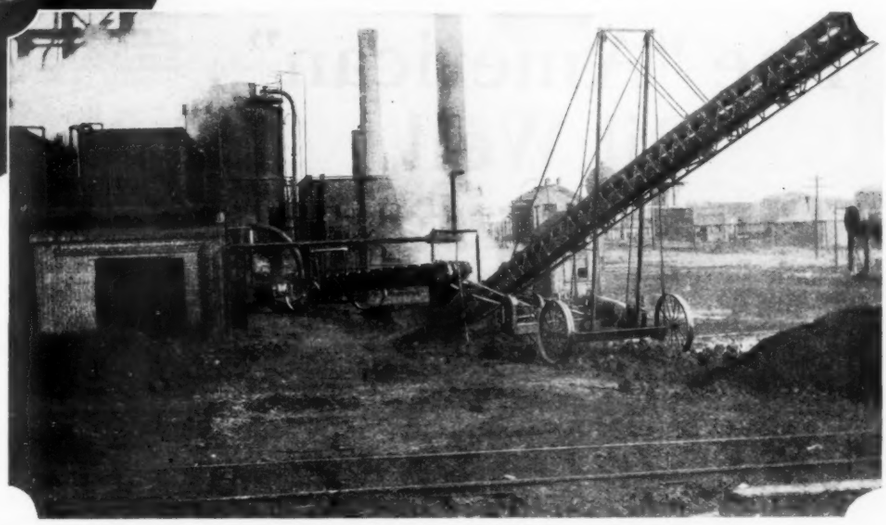
Another B-G "N" owned by the Producers and Refiners Corporation loading "fines" to railroad car. It handles all that two teams with slip scoops can feed it.

A Barber-Greene Bucket Loader turning over spent oxide.

SLOW, high-priced shovel gangs have had their day at the plant of the Producers and Refiners Corporation, Shreveport, Louisiana. Four Barber-Greene Conveyors are now handling the petroleum coke far faster and far cheaper.

Three of these Barber-Greenes, working in series, convey the coke from the "crackers" directly to cars. The fourth, handling all that two teams with slip scoops can feed it, loads "fines" from storage piles to cars.

Practically no hand labor is required, and the



Two of the Barber-Greene "N" Conveyors, handling petroleum coke from the "cracker" at the Shreeport plant.

plant superintendent says: "Our Barber-Greenes can easily handle 100 tons of coke in eight hours." That's speed.

At a gas company in Rhode Island, two Barber-Greenes are handling coke and oxide at a saving of 36c per ton over hand labor, and they are in operation only 40 odd days per year.

There are many more interesting examples of the time-saving, cost-cutting ability of Barber-Greenes. Send for them today. There's no obligation.

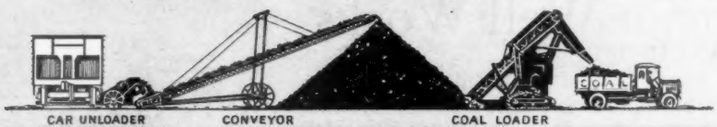
Vertical Boom Ditchers *Snow Loaders*
Disc Feed Loaders *Permanent Belt Conveyors*

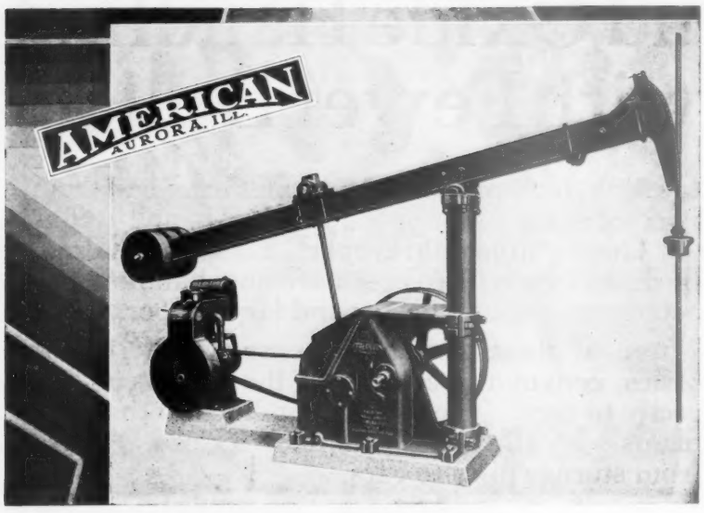
Representatives in 50 cities

BARBER-GREENE COMPANY, 600 W. Park Ave., Aurora, Illinois

Barber-Greene

The Three Yardsmen





The "American" Oil Well Pumping Jack!

The "American" Totally Enclosed Oil Well Pumping Jack has been designed in answer to the demand for the efficient pumping of individual wells.

American Jacks are made in three sizes—twelve inch to fifteen inch stroke, fifteen inch to eighteen inch stroke, and eighteen inch to twenty-two inch stroke. All gears are totally enclosed and run in a bath of oil which floods the bearings, insuring smooth operation and long life. The head proper may be disengaged from the cable and swung back from the walking beam, permitting the rods to be pulled without moving the jack itself. There are no screw mechanisms or adjustments necessary. No gears are exposed.

Compact, sturdy and economical in operation! Ask for bulletin 181.

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BRANCH OFFICES

Chicago, Ill. First National Bank Bldg.
New York, N. Y. 165 Broadway
Milwaukee, Wisc. First Wisc. Nat. Bank Bldg.
San Francisco, Calif. 635 Mission Street

Name and Address—	Barrels	Value
Hammon, Heyser, Garrett & King, Wichita Falls	4,510.57	8,256.33
Hammon, Heyser & Garrett, Special, Wichita Falls	18,813.12	30,102.35
Hammon, Heyser & Garrett, Wichita Falls	2,253.26	4,228.23
Hammon & Garrett, Wichita Falls	4,599.79	8,597.47
Hammon, Wayne, special account, Wichita Falls	2,088.30	3,876.56
Hamon, Jake L., Jr., Ardmore, Okla.	14,599.03	25,831.22
Humphreys Corp., Houston	109,244.05	162,390.15
Harwell, O. H. and O. E., Abilene	1,210.24	2,300.52
H. Y. Oil Co., Inc., Fort Worth	4,991.65	9,621.01
Henshaw, G. A., Jr., & Co., San Angelo	87,155.05	.....
Harwell Brothers, Abilene	1,210.66	2,239.12
Hitchman & Howard, San Antonio	1,782.57	2,836.57
Hoppes, W. T., Burkburnett	188.45	296.13
Hart Oil Corp., Fort Worth	475.27	820.12
Hart-Mexia Syndicate, Fort Worth	455.81	706.32
House & Lewis, Cameron	869.29	1,730.91
Halmack Oil Co., Dallas	3,082.94	5,273.22
Hoffer Oil Corp., Fort Worth	9,907.10	18,263.38
H. A. S. Oil Co., Wichita Falls	173.88	339.07
Hefley, McIntosh & Thomas, Cameron	746.17	1,299.06
Homaokla Oil Co., Oklahoma City, Okla.	4,231.09	8,543.08
Hardie, J. M., & Co., Sour Lake	865.81	1,159.61
Hamilton & Wilson (Haywood lease), Wichita Falls	3,400.60	6,170.16
Hanlon Gasoline Co., Tulsa, Okla.	1,384.66	2,248.58
Houston Production Co., Houston	27,873.46	40,287.52
Hockaday & Shaw, Wichita Falls	1,830.43	3,333.14
Hammond L. P., Wichita Falls	965.04	1,741.04
Holmes & Riley, Amarillo	23,055.30	25,360.83
H. B. J. Oil & Gas Trust, Baltimore, Md.	1,450.82	2,704.87
Hughes, J. K., Oil Co., Mexia	49,816.10	85,633.86
Hughes, J. K., Development Co., Mexia	329,720.45	455,046.37
Hughes, William K., trustee, St. Louis, Mo.	1,063.26	1,798.74
Humphreys Brothers, Inc., Brownwood	1,061.09	1,911.42
Hill-Riley, Smith lease, Amarillo	6,583.32	7,974.86
Hinson & Tidwell, Graham	2,883.31	5,522.39
Holmes & Huey, Amarillo	15,217.52	16,739.27
Holbrook & Woods, Wichita Falls	13,969.04	25,805.80
Hines, Harry, Wichita Falls	15,448.16	28,383.85
Hankamer, Earl C., Sour Lake	1,041.42	1,386.23
Habif, J., Los Angeles, Calif.	37.70	40.23
Harris & Simons, Tulsa, Okla.	11,923.06	12,094.56
Harris-Hays Co., Okmulgee, Okla.	1,208.68	2,054.15
I		
Irick Oil Co. of Ohio, Waskom	521.29	736.17
Invader Drilling Co. (12-31-26), Amarillo	9,219.95	11,524.94
Infield Petroleum Co., Austin	1,228.97	2,192.81
Indiahoma Corp., The, Okmulgee, Okla.	553.41	1,080.63
Independent Oil & Gas Co., Tulsa, Okla.	174,289.37	171,753.81
Ilseng Production Co., Fort Worth	1,420.68	2,560.56
Ilseng, A. G., Fort Worth	230.14	437.07
Idaho Oil Co., San Antonio	1,452.05	2,249.33
Interocean Oil Co., Tulsa, Okla.	18,190.15	32,399.54
J		
Jennings, J. C., et al, Wichita Falls	1,131.30	2,060.06
James, J. H., Fort Worth	203.38	406.76
Jewett, Frank L., Burkburnett	1,586.69	3,382.09
Jones, D. H. (12-31-26), Laredo	549.41	549.41
Jones, Garcia, Oil Co. (12-31-26), Laredo	4,383.45	5,479.30
Jacobs, I., Dallas	110.70	190.51
Jackson, T. H., Sipe Springs	231.12	407.26
Jones, J. A., Moran	495.44	913.59
Janelen Oil Co., Tulsa, Okla.	245.00	281.78
Jennings Oil Co., Yoakum	761.80	1,561.69
Judson Oil Co., Tulsa, Okla.	13,337.69	25,088.42
Johnson, O. C., trustee, San Antonio	856.72	1,070.90
Jones, W. A., Minerva	311.18	544.04
Jones Oil Co., Wichita Falls	2,506.53	4,612.01
Jackson, J. S., trustee, Sour Lake	3,178.41	4,241.09
Jones, J. E., Wichita Falls	1,423.15	2,627.03
Julia Oil Co., Sour Lake	4,103.08	5,524.59
Johnson Brothers, San Antonio	12,705.29	20,710.90
Jackson Co., The, San Antonio	1,507.09	2,344.52
Japhet Production Co., Houston	43,516.80	52,464.89
Jones, Edwin M., El Dorado, Ark.	27,209.39	48,121.38
Junior Oil Co., Cross Plains	2,100.95	4,266.18
Jameson, Chas. M., Moran	1,359.32	2,415.94
Jacob Oil & Gas Co., Graham	738.32	1,369.20
Jenkins & Wilbanks, Putnam	245.24	408.92
K		
Kent-Middleton Refining Co., Corsicana	27,727.50	27,727.50
Kishi, K., Terry	3,772.48	5,281.47
Koury, Mike (Quar. 12-31-26), Houston	1,714.81	4,108.41
Kemp, J. W., (12-31-26), Cameron	314.04	677.31
Kerr, T. P., Corsicana	432.42	775.29
Kent, G. C., Corsicana	47,526.53	82,629.71
Kleinfelder, B. F., Breckenridge	1,178.08	2,039.10
Kurz Oil Co., Somerset	619.36	893.45
Kahle, Gracey & Diver, Bridgeport, Ill.	14,303.96	17,228.45
Kemp, Munger, Allen Oil Co., Wichita Falls	6,561.72	12,267.80
Kuhlemeier, Kleiner Oil Co., Cisco	754.56	1,359.77
Klemcke, George, trustee, Von Ormy	2,809.14	4,176.22
Kaufman, L., San Antonio	553.84	818.42
Kavanaugh Petroleum Co., Houston	1,248.64	2,236.00
Kolp, C. F., Electra	10,346.94	18,411.38
Kone Production, San Antonio	28,269.02	58,273.76
Knotts, F. F., Wichita Falls	568.11	1,028.43
Kewanee Oil & Gas Co., Titusville, Pa.	61,611.61	98,189.07
K. & S. Corp., Laredo	25,821.80	31,379.42
Keener Oil & Gas Co. of Texas, Tulsa, Okla.	5,046.25	9,122.52
King Royalty Co., Wichita Falls	33,350.11	62,641.54
Keen & Woolf Oil Co., Shreveport, La.	24,131.71	32,760.63
Kirby Petroleum Co., Houston	6,829.17	12,337.13
Kate Bell Oil Co., The, Dallas	1,485.40	2,743.59
Kleiner Brothers, Cisco	166.96	282.45
Kendrick, P. S., Albany	2,637.52	3,924.79
Killam, O. W., Laredo	2,582.22	3,227.77
King & Daniels, Wichita Falls	4,365.58	8,167.08
Kurz, A. A., San Antonio	425.59	610.65
Keystone Production Co., Fort Worth	4,087.70	8,052.77
Kestler & Lenix, Amarillo	57,609.61	68,762.33
Kistler, Frank E., & Co., Inc., Denver, Colo.	211,586.31	249,832.84
L		
Light Oil Co., Beaumont	158.27	276.19
Lewis, J. E., et al, Eastland	4,789.88	8,402.48
Lewis, J. E., & Co., Eastland	1,028.42	1,907.84
Levy, Leonard M., trustee No. 2, Fort Worth	2,401.40	4,689.85
Lockhart & Co. (12-31-26), Los Angeles, Calif.	7,240.00	11,487.56
Larkin, W. B., Wichita Falls	413.88	766.79
Lytle Oil Association, Lytle	324.26	447.58
Leonard, George, Somerset	253.60	337.44
Leonard Oil Co., Somerset	407.03	610.08
Linedo Oil Co., Lincoln, Neb.	3,689.84	4,612.30
Letwin, Sam, Breckenridge	3,977.44	6,853.83
Long, Roy, Oil Co., Navasota	3,024.75	5,637.54
Lawson, Eugene B., Nowata, Okla.	54,935.13	99,581.80
Lytle, C. F., Mexia	21,058.73	35,601.80
Lackey, W. C., Tulsa, Okla.	6,200.41	10,371.89
Laclede Petroleum Co., Dallas	92.00	134.00
Lamb, George E., Brownwood	680.36	1,197.08
Lowrey, J. T., Albany	129.85	183.32
Lain Oil Co., Somerset	1,518.17	2,278.66
Little Caddo Syndicate, Fort Worth	1,707.70	3,025.78
Lowry Oil Corp., Wichita Falls	3,224.17	5,987.57
Laredo Oil Co., Laredo	3,629.31	4,259.77
Levy, Leonard M., trustee No. 1, Ranger	4,129.07	8,376.02
Little, William, Breckenridge	203.64	311.43
Lucey Petroleum Co., Dallas	691.42	1,229.91
Lee, R. Q., Cisco	218.47	428.67
Lake View Oil Co., Sour Lake	19,526.63	26,438.84
Lowe, Delaney & Carter, De Leon	1,954.15	3,654.59
Lone Star Gas Co., Dallas	14,444.61	27,220.25
Langford, W. G., Wichita Falls	1,899.46	3,293.60
Lake Erie Trust Co., Cleveland, Ohio	1,096.04	2,066.14
Lebow, C. H., Tulsa, Okla.	833.82	1,605.38
Lenix, J. H., Amarillo	607.47	577.10
Liberty Oil & Gas Trust, Baltimore, Md.	1,754.74	2,832.78
Lomax, Thornton, Jr., Wichita Falls	11,730.82	24,423.67
Lake Graham Oil Co., Houston	5,699.58	10,766.11
Louisiana Oil & Refining Corp., Shreveport, La.	28,245.74	41,186.70
Lesh & McCall, Nocona	55,752.40	69,329.37
Len-Cook Oil Co., Electra	797.24	1,462.13
Lenix-Smith No. 1, Amarillo	10,214.44	11,736.60

"More economical than steam or electricity"

BUDA POWER

— *the oil field power*

For example, electric welding:—

As electric welding is, today, the accepted and standard practice because it is by far the most efficient and cheapest method of applying heat to metal—

As electric welders ***depend*** on gas engines to generate their required steady flow of electric heat—

As this electric heat ***must*** be ready at all times—***must*** be constant in volume and heat energy—***must*** be delivered hour after hour and ***must*** be low in cost—

As all of this ***must*** be— —it is no wonder that most manufacturers standardize on BUDA POWER. BUDA engines are especially built for oil field work. Operators who use BUDA POWER know that it is ready for instant service—there's plenty of power whenever it's needed and moreover that every horsepower costs less in fuel — upkeep — labor.

There are in BUDA engines such features as—Removable and replaceable cylinder blocks. Four ring pistons. Removable valve and push rod guides. Three large diameter main bearings. Crankshaft and connecting rod bearings are all of large diameter. Ready accessibility to all working parts.

BUDA patented force-feed lubricating system.

New type two-piece manifold delivers perfect distribution of fuel to the combustion chambers giving increased power with lower fuel consumption.

Cylinder heads, especially designed, have greater water capacity and give absolutely uniform compression space which results in a greater smoothness of operation.

BUDA POWER replaces steam or electricity—more economical than any other type of power plant. Adapted for permanent or portable work and for direct connection, belt, gear, or chain drive to any machinery.

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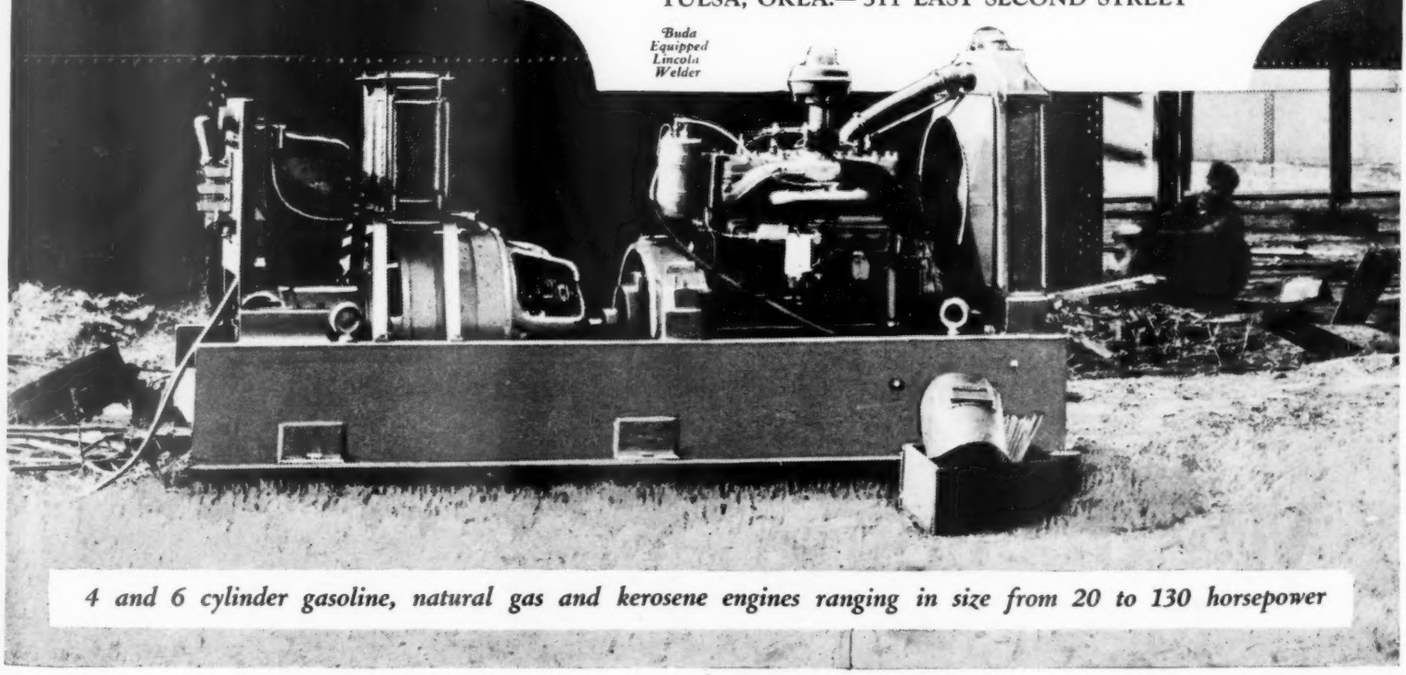
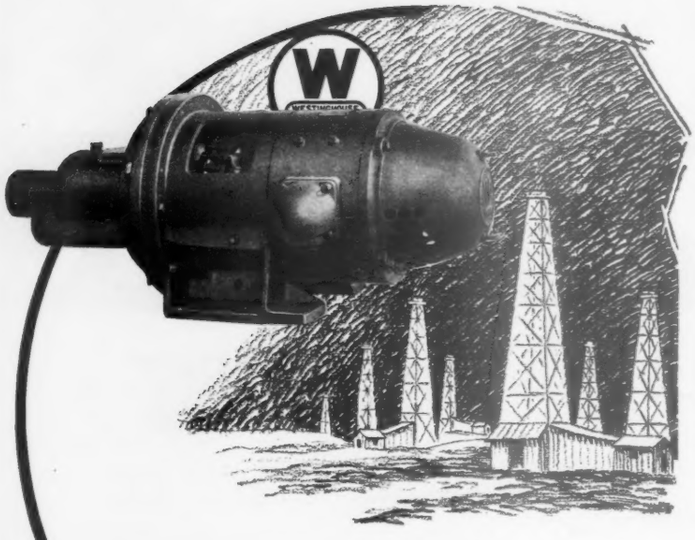


4 and 6 cylinder gasoline, natural gas and kerosene engines ranging in size from 20 to 130 horsepower



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—in forests of derricks or in "wildcat" territory, the Westinghouse Rig Lighter maintains a constant vigil.

—a vigil for uninterrupted operation.

—a vigil for daylight speed and daylight efficiency throughout the night.

—a vigil for the safety and protection of workers.

Any one of the crew—skilled or unskilled—can install it. Merely bolt the frame to a plank or other horizontal support. The turbine and generator are on one frame and need no alignment or adjustment. Connect the steam pipe—then plenty of light night after night.

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Rig Lighter

Name and Address—	Barrels	Value
Lesh-Kilcrease Co., Nocona	6,001.24	7,302.27
Lucas & Nance (Graham National Bank No. 2), Graham	400.79	684.90
Lucky Tex Oil Co., Amarillo	6,771.54	8,464.42
Lee Homer, Wichita Falls	3,473.63	6,529.13
Moore, N. A., Eastland	635.63	1,074.85
Magee & Stipes, Electra	1,499.94	2,876.44
Magee Brothers, Electra	894.60	1,706.12
Moutray Oil Co., Abilene	132,127.50	243,522.15
McCarter, R. C., Cisco	1,052.16	1,972.81
Minor Oil Co., Beaumont	7,883.18	10,563.46
Mary Elizabeth Oil Co., Dallas	9.28	18.65
Madden & Hunt, Olney	11,931.86	22,439.56
Mills & Garritty, Corsicana	1,609.91	2,253.87
Marnet Oil & Gas Co., Tulsa, Okla.	3,397.00	6,561.85
Madison Oil & Gas Co., Electra	13,679.94	23,411.64
Marland Oil Co., of Texas, Fort Worth	1,608,525.97	2,076,529.23
Mid-Texas Petroleum Co. (12/31), Oklahoma City, Okla.	12,386.54	28,663.08
Mancill, R. W., trustee, Cisco	141.32	250.86
Mann, L. T., administrator, and Cosmopolitan Oil Co., Wichita	1,163.90	1,195.98
McDonald, M. C., Putnam	5,275.26	9,658.59
Macknold Co., San Antonio	389.33	565.74
Midwest Exploration Co., The, Amarillo	366,834.76	456,233.64
Moss, Urchel & Keys, Mexia	10,725.74	17,590.11
Moss & Urchel, Mexia	5,576.38	10,805.26
Moss-Kelling et al, Mexia	40,143.36	71,053.74
Moss & Keeling, Mexia	4,503.38	8,736.55
Mendenhall Oil Co., Cross Cut	4,095.66	8,028.01
Montgomery, Rhea & Montgomery, Sedwick	2,819.26	5,074.66
Medina Oil & Gas Association, San Antonio	283.95	417.40
McCrary, E. W., Tulsa, Okla	3,793.57	6,266.36
Meridian Petroleum Corp. of Texas, Tulsa, Okla.	3,713.63	6,510.02
Minerva Petroleum Co., Minerva	1,722.62	3,161.62
Murphy, J. A., Mineral Wells	9,584.00	18,213.44
Moore & Henderson, Tulsa, Okla.	639.68	1,104.83
Moutray & Son, Abilene	551.02	930.62
Martin, Albert, receiver, Laredo	8,628.64	10,785.80
McCarty Oil Co., Wichita Falls	63,744.23	124,432.36
McIlroy Oil Co., Amarillo	40,076.10	42,754.51
Matador Oil & Gas Co., Quanah	334.00	642.26
Martin Petroleum Co., Humble	3,893.45	4,672.80
McClure, W. D., & Sons, Iowa Park	723.05	1,249.42
Milham Corp. of Texas, San Antonio	136,225.83	231,996.88
McNamara Oil Co., Beaumont	3,156.97	4,269.54
McMan Oil & Gas Co., Tulsa, Okla.	578,536.82	750,203.40
Mennis, G. W., Wichita Falls	4,042.69	8,028.20
Maer & Staniforth, Wichita Falls	3,398.03	5,875.75
Mid-Continent Petroleum Corp., Tulsa, Okla.	22,424.97	38,678.11
Minnehoma Oil & Gas Co. et al, Tulsa, Okla.	28,765.13	32,378.90
Mohegan Oil Co., Mohegan Lake, N. Y.	217.88	335.49
Majestic Gasoline Co., Fort Worth	10.92	12.10
Mues & MacDermott, Fort Worth	406.84	734.98
McDonald, W. W., et al, Dallas	5,552.97	9,504.81
McBride, W. C., Inc., St. Louis, Mo.	3,252.28	4,974.95
McLester, Jerome, Cisco	1,596.00	2,357.00
Miller & Miller, Putnam	998.92	1,802.16
Meredith, J. D., Moran	5,022.71	7,131.50
Minntex Oil Corp., Wichita Falls	724.61	1,415.79
McCutcheon, C. E., trustee, Wichita Falls	10,832.42	19,936.42
Miller Oil Co., Electra	60.15	102.15
Marsalle Brothers, Humble	2,644.66	3,572.48
McNallen & Griffin, Tulsa, Okla.	5,177.55	9,107.06
Mills Bennett Production Co., Houston	24,257.33	33,112.36
Maxwell, J. C., Fort Worth	19,382.89	16,663.26
Murchison Oil Co., Wichita Falls	33,615.36	47,135.29
Mid-Kansas Oil & Gas Co., Findlay, Ohio	195,954.85	260,136.20
Moore & Snebold, Fort Worth	2,780.17	4,993.12
McChesney, Nancy, Wichita Falls	14,240.08	24,972.84
Moran, W. J., Wichita Falls	1,740.21	2,879.86
Moore, F. L., trustee, Tulsa, Okla.	4,010.61	7,233.65
Moore & Henderson, Tulsa, Okla.	639.68	1,104.82
Mann & Forbes, Graham	2,700.66	5,118.30
Mook-Texas Oil Co., Fort Worth	6,861.03	10,935.38
Morton, A. D., Bartlesville, Okla.	115.47	213.62
McEwan, J. P., trustee, Fort Worth	1,584.51	2,716.17
McJunkin, Florence, Ranger	848.73	1,629.56
McDaniel, E. R., Cisco	6,870.93	13,439.55
Moody Corp., Houston	30,282.09	39,141.06
Midwest & Gulf Co. of Texas, Tulsa, Okla.	1,296.75	2,255.19
Mortimer, Hobbs & Ferguson, Abilene	1,306.72	2,025.30
Margay Oil Corp., Tulsa, Okla.	4,340.32	7,452.81
Milham Production Co., Rockdale	1,092.62	1,976.12
M. & V. Oil Co., Wichita Falls	9,016.62	14,604.48
Magnolia Petroleum Co., Dallas	2,960,421.03	4,242,072.50
Mann, F. A., Graham	1,185.00	2,189.06
Moore, C. O., Oil Corp., St. Louis, Mo.	15,986.26	30,735.04
N		
Nortex Drilling & Development Co., St. Louis, Mo.	219.83	458.24
National Oil Co., San Antonio	1,039.58	1,515.26
National Supply Co. of Texas, Fort Worth	159.60	213.86
Newport & Ohio Petroleum Co., Newport, N. Y.	.....	.....
Number Nine Oil Corp., Tulsa, Okla.	2,955.60	5,381.31
Navarro Oil Co., Houston	97,507.82	139,751.93
Necessity Oil Co., Dallas	4,105.46	6,436.38
Newton Palmer Oil Co., Rockdale	2,444.91	4,465.82
Noack Oil Co., Rockdale	1,566.74	2,941.85
Norman Oil Co., Wichita Falls	2,162.80	5,140.90
New Domain Oil & Gas Co., Inc., Pittsburgh, Pa.	11,394.66	13,643.50
Nunn-McAuley Oil Co., Amarillo	94,490.73	112,352.26
Noble-Thomas Oil Co., Wichita Falls	2,462.66	3,940.25
Noble Oil & Gas Co., Tulsa, Okla.	4,039.76	6,984.31
Nash & Windfohr Oil Corp., Graham	5,704.15	9,477.54
O		
Osborn, R. R., Amarillo	581.07	631.55
Oil Operators Trust, Fort Worth	12,857.61	17,442.76
O'Neil, H. A., Burkburnett	3,699.32	6,777.87
Oldom, William P., Iowa Park	1,908.00	3,280.00
Oil Investment Co., Wichita Falls	5,000.89	8,848.29
Owenwood Oil Corp., Fort Worth	2,117.00	3,478.46
Owenwood Pool No. 3, Fort Worth	7,235.00	12,692.54
Oakwood Oil Syndicate, Fort Worth	105.96	131.39
O'Neil, John, Wichita Falls	13,503.64	28,460.89
Oktaha Co., The, Tulsa, Okla.	1,065.12	1,865.10
Overby, W. W., lease, Wichita Falls	326.24	583.73
Omilak Oil Co., Spokane, Wash.	358.53	551.11
Overby, J. D., Iowa Park	703.05	1,282.71
Olean Petroleum Co., Bristow, Okla.	52,209.56	65,073.44
Oriental Oil Co., Dallas	1,507.37	2,771.17
Orange Development Co., Bartlesville, Okla.	2,203.45	2,585.73
Orange Petroleum Co., Orange	55,823.62	82,270.09
Omohundro, W. B., Wichita Falls	2,289.59	4,246.24
Owens Oil Co., Brownwood	1,903.16	2,916.79
Old Ocean Oil Co., Kansas City, Mo.	3,921.43	5,858.00
Ocean Oil & Refining Co., El Paso	1,075.47	1,666.31
Ohio Somerset Oil Co., Wichita Falls	1,885.85	2,640.19
Osage Oil Corp., Tulsa, Okla.	293.28	348.76
Orth, T. R. T., Wichita Falls	359.88	666.75
Olney Oil & Refining Co., Olney	611.58	1,086.25
Palo Duro Oil Co., Amarillo	26,846.13	36,507.03
Penn, R. R., Dallas	351.83	697.68
Plummer, W. A., Wichita Falls	1,251.00	2,151.97
Pace & Ward, Breckenridge	3,335.15	5,702.10
Portland Drilling Corp., Wichita Falls	714.02	1,168.91
P. & M. Oil Co. (12/31/26), Tulsa, Okla.	177.78	390.32
Prather, Ed, Special (12/31/26), Houston	227.45	504.35
Parsons, E. V., Fort Worth	643.84	1,520.40
Primrose Oil Co., Sour Lake	1,273.77	1,697.04
Pemeta Oil Co., Fort Worth	4,627.43	9,677.06
Plains Production Co., Wichita Falls	963.36	1,554.32
Pomona Mutual Oil Syndicate, Pomona, Calif.	3,887.93	7,594.35
Parry Oil Co. of Texas, Fort Worth	1,279.19	2,178.40
Piper, L. E., trustee, Vernon	2,192.17	3,201.88
Pemeta Oil Co., Fort Worth	5,977.38	10,198.76
Pentagon Oil & Gas Co., Fort Worth	44.45	70.23
Price-Russell & Co., Ranger	7,681.70	12,744.27
Putnam Oil Co., Tulsa, Okla.	43,518.00	76,809.45
Prescott Phoenix Oil & Gas Co., Muskogee, Okla.	173.62	293.98
Philp Brothers, Beaumont	1,665.84	2,221.59
Pigg & Murchison, Vernon	587.00	962.26

(Continued on Page 143)

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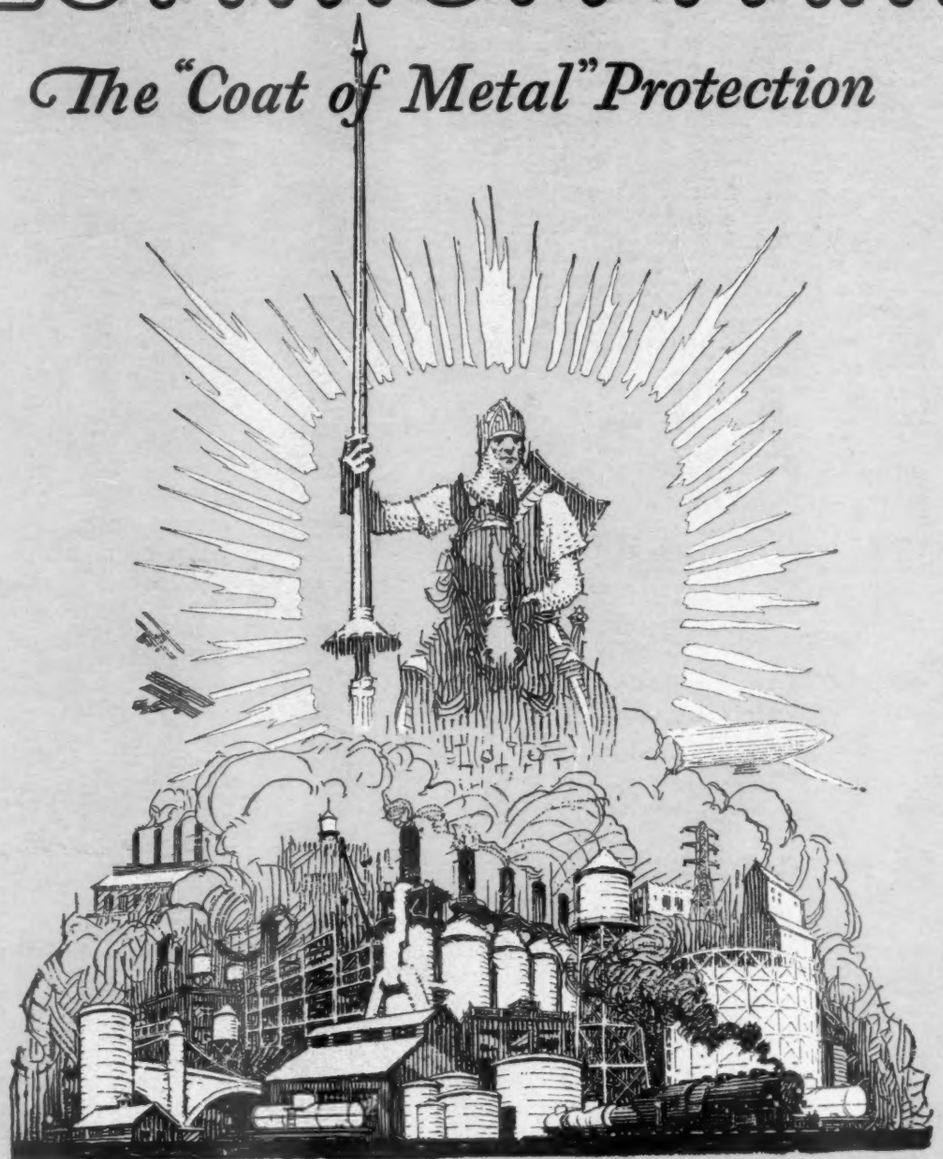
ALUMINUM PAINT

The "Coat of Metal" Protection



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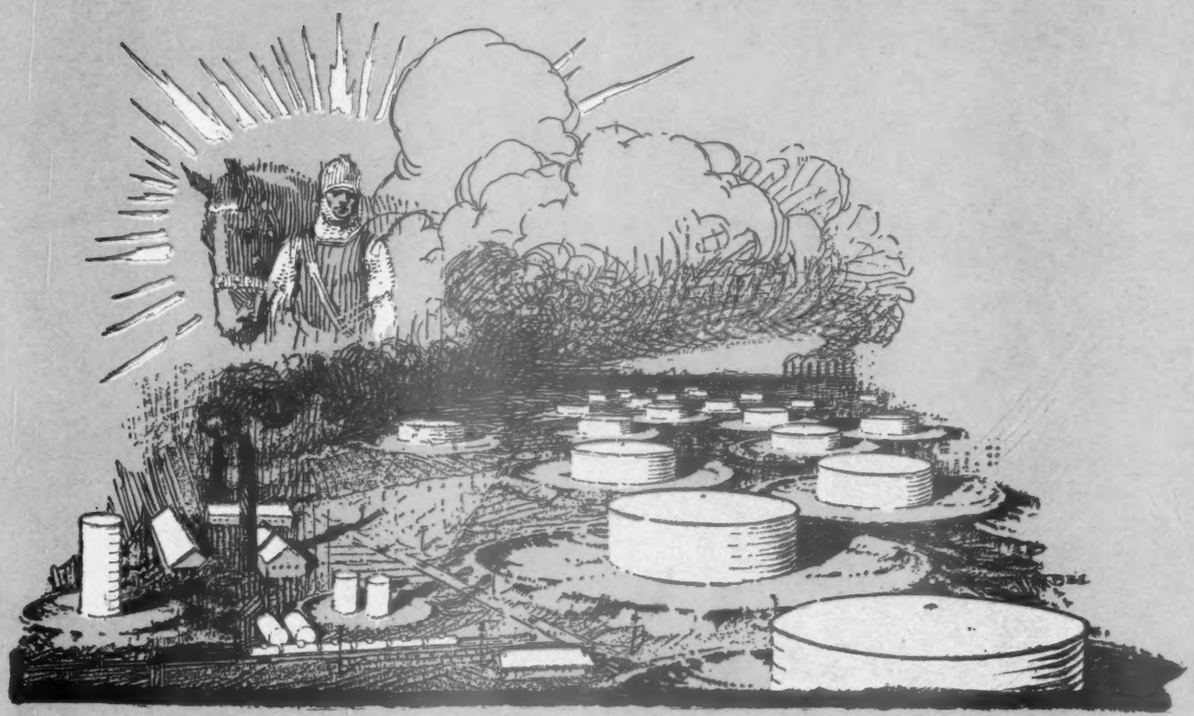

WHEREVER oil or gasoline is stored or handled—in field tanks, tank cars, distributing plant tanks, trucks—the sun takes its toll.

Here are literally millions of dollars going up in evaporation.

Today—from one end of the country to the other—engineers and superintendents in company after company are taking steps to reduce that waste to the minimum.

They are doing it with Aluminum Paint. Aluminum Paint keeps the oil cool. It reflects the sun's heat instead of absorbing it.

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Aluminum Paint owes its unusual *effects* to a new principle—peculiar to this pigment. This is the principle of "leafing", which results in the formation of an actual coat of non-tarnishing polished metal.

Aluminum Paint *retains* its reflective and protective qualities. Weather, gases, sunlight have little effect on it.

It covers 500-700 square feet per gallon; the cost is no more than that of ordinary paints.

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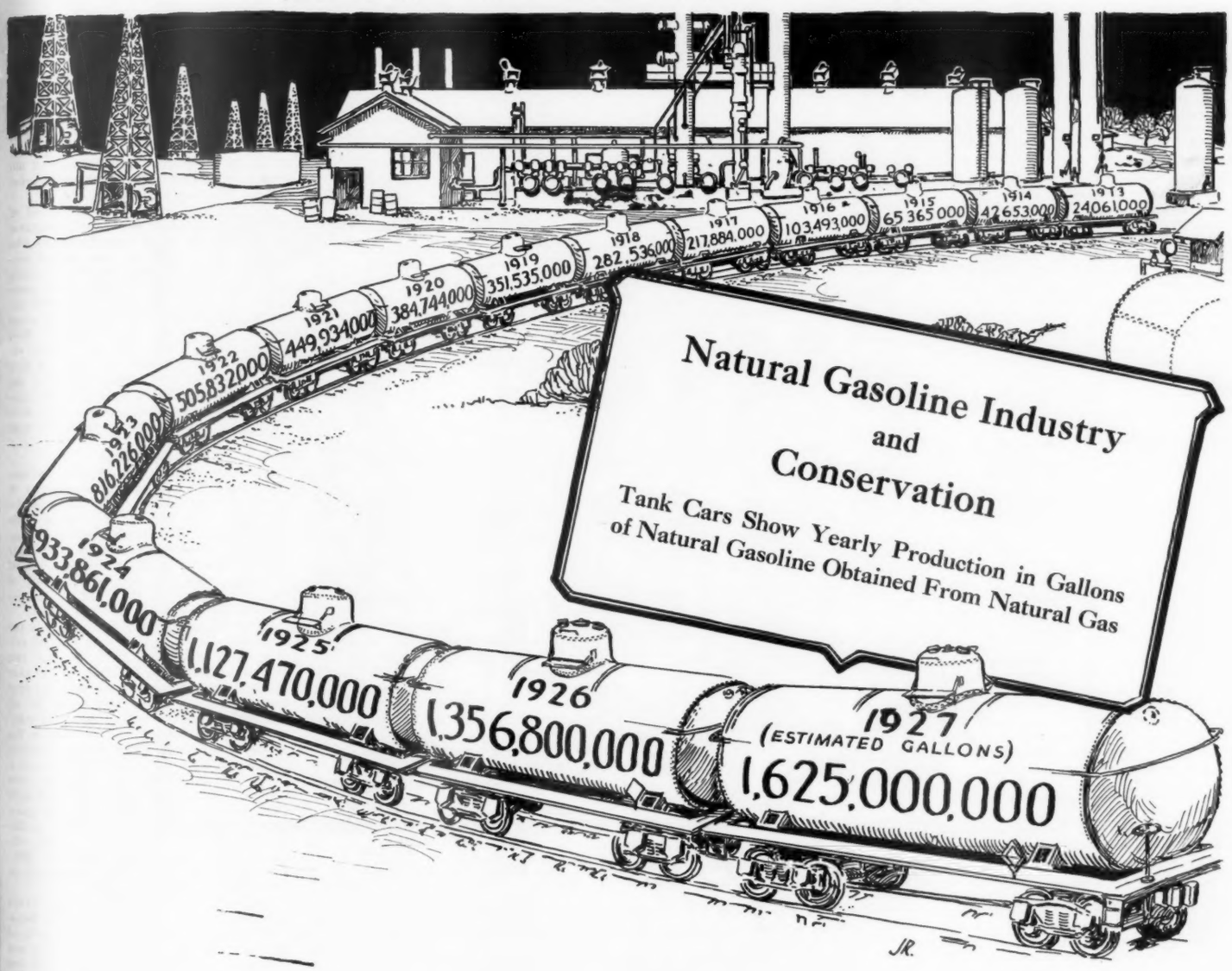
Production of Natural Gasoline



LATEST GOVERNMENT REPORTS ON NATURAL GASOLINE PRODUCTION

(Data given in thousands of gallons)

	*1927			1926												
	January	February	March	January	February	March	April	May	June	July	August	September	October	November	December	Total
Appalachian	11,200	9,900	9,600	11,200	10,100	10,200	8,700	6,600	5,800	5,200	5,100	5,700	8,100	9,500	10,600	96,800
Indiana, Illinois, etc.	1,700	1,500	1,500	1,800	1,700	1,800	1,600	1,300	1,100	1,200	1,200	1,300	1,500	1,500	1,700	17,700
Oklahoma, Kansas, etc.	42,600	41,700	42,000	38,300	36,700	41,900	42,200	42,600	41,100	42,300	42,500	42,000	44,500	44,200	44,400	503,100
Texas	24,700	23,900	28,400	17,600	16,300	19,100	18,200	18,400	17,700	18,400	19,200	19,600	21,500	22,500	23,700	232,200
Louisiana-Arkansas	6,900	6,400	7,000	5,800	5,500	6,200	6,000	6,400	6,200	6,500	6,500	6,300	6,500	6,800	7,000	75,700
Rocky Mountains	3,700	3,500	4,000	2,300	2,600	3,400	3,600	3,800	3,800	3,600	4,000	3,900	4,200	3,700	3,000	41,900
Total east of California	91,800	86,900	92,500	77,000	72,900	82,600	80,300	79,100	75,700	77,200	78,900	78,800	86,300	88,200	90,400	967,400
California	40,300	36,300	41,300	29,000	27,100	30,500	29,300	31,200	31,300	33,200	33,000	32,800	35,800	36,400	39,800	389,400
Total United States	132,100	123,200	92,500	106,000	100,000	113,100	109,600	110,300	107,000	110,400	111,900	111,600	122,100	124,600	130,200	1,356,800

*Government reports include only first three months of 1927.

	1911-1925														
	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Arkansas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,289	16,183	17,533	19,686
California	*	1,041	3,461	7,581	12,835	17,159	28,818	32,269	40,386	48,208	58,220	67,120	173,329	232,579	303,180
Illinois	*	*	*	1,164	1,035	2,260	4,934	4,575	6,060	6,055	7,536	7,760	7,356	9,091	9,874
Kansas	.....	.....	.....	.....	.....	215	1,175	2,390	3,284	4,331	3,587	2,856	8,775	11,658	19,592
Kentucky	*	*	*	*	*	725	3,818	3,331	5,136	4,497	4,242	5,205	7,601	7,274	7,685
Louisiana	.....	.....	.....	.....	*	2,113	4,980	7,021	10,063	10,610	15,341	29,406	40,720	48,098	43,489
New York	*	*	*	*	*	*	*	218	458	411	366	506	408	477	414
Ohio	1,679	1,719	2,073	2,440	2,199	2,639	5,440	6,745	8,501	10,016	9,100	8,600	10,035	9,443	8,701
Oklahoma	388	1,575	6,463	17,278	31,666	48,360	115,123	163,701	189,995	178,857	185,341	189,404	270,249	301,162	290,861
Pennsylvania	1,467	2,041	3,680	4,612	5,899	9,715	13,826	15,775	20,284	21,151	19,856	18,518	19,132	19,254	18,850
Texas	.....	.....	.....	.....	*	1,293	6,920	7,326	9,337	32,956	77,141	95,405	177,765	186,571	214,092
West Virginia	3,660	5,318	7,662	9,278	10,854	18,765	32,669	37,604	52,150	58,941	54,646	56,796	63,381	61,549	58,201
Wyoming	.....	.....	.....	.....	.....	.....	.....	1,579	5,581	8,711	14,558	19,967	21,292	29,272	32,727
Undistributed	232	387	732	300	877	249	181	2	.....	.....	.....	.....	.....	.....	.....
Total United States	7,426	12,081	24,061	42,061	65,365	103,493	217,884	282,536	351,535	384,744	449,934	505,832	816,226	933,861	1,127,470

*Included under undistributed.

Gasoline Industry Has Record Growth

Annual Survey of Natural Gasoline Plants Show Greatest Expansion in History. Three States Have Bulk of Increase

By C. O. Willson

The manufacture of natural gasoline from natural gas in the United States during the past year experienced the greatest expansion in the history of that youthful branch of the oil industry which had its commercial beginning 15 years ago.

Reflecting a situation which also has been shown in the government figures on actual production, The Oil and Gas Journal's annual survey of natural gasoline plants for May, 1927 shows an increase in capacity of 1,819,264 gallons during the past year. According to the May survey, given complete in this issue, 1,148 plants had a capacity of 6,947,264 gallons an increase of 8 per cent in plants and 35 per cent in capacity over the 1,064 plants in May, 1926 which had a total capacity of 5,128,000 gallons daily. This expansion means an increased investment of at least $100,000,000 in the natural gasoline industry during the past 12 months.

ADDITIONAL FEATURE

The annual survey of natural gasoline plants in the United States, published in this issue is the most complete ever made of that industry.

An additional feature of this year's survey is the personnel of the industry. This report which gives the names of all company officers including the sales managers and general superintendents of plants with general office addresses, starts on page 129.

The regular report covering the operations of 1,148 plants starts on page 107. These data include company ownership, location, type and daily capacity of all plants.

No other year has witnessed such a large increase in capacity. With an increase of only 84 in the number of plants the large expansion of the natural gasoline industry obviously is partially due to the fact that the capacities of plants already in operation have been enlarged. When a comparison of individual plants this year and last is made this condition is very clearly shown. The comparative reports will show that the capacities of a large number of plants have been increased by the addition of new operating units.

This reflects a trend—under way in the manufacture of natural gasoline for the past five years—in which the industry has been building larger units rather than having numerous small plants. It was thought by some that the advent of the small portable plant during the past year and a half would change this trend toward large plants but the survey this year fails to substantiate this contention. The number of portable installations has increased during the past year but they are being used primarily as temporary equipment to handle flush gas production. These units generally are replaced or supplemented by larger permanent installations. In this connection it should also be pointed out that many of these so-called portable plants have been perfected to the point where they have a large capacity when operated alone and thus add rather than detract from the per-plant capacity for the entire United States.

Source of Increase

As shown in the following table the bulk of the increase during the past year came from the states of California, Texas and Oklahoma:—

Natural Gasoline Industry by Years

	No. Plants	Daily Capacity Gallons
1924, (May)	1,012	3,396,961
1925, (May)	1,143	4,652,561
1926, (May)	1,063	5 121,000
1927, (May)	1,148	6,947,264

All data compiled by The Oil and Gas Journal.

Natural Gasoline Industry by Divisions—May, 1927

	No. Plants	Daily Capacity Gallons	Pct.
California	153	1,860,750	26.8
Mid-Continent (Oklahoma, Kansas, Texas, Arkansas, Louisiana and New Mexico)	566	4,294,748	61.8
East of Mississippi River	419	651,366	9 3
Wyoming	10	140,400	2.0
Total United States	1,148	6,947,264	99.9

Natural Gasoline Capacities by States—May, 1927

	Total No.of Plants	Total Daily Capacity	No. of Opr. Plants	Total Daily Capacity	No. of Plants Bldg.	Daily Capacity Opr. Plants	No.of S.D. Plants	Daily Capacity S.D. Plants
Arkansas	17	120,660	16	118 660	1	2,000	..	....
California	153	1,860,750	147	1,793,850	1	25,000	5	41,900
Illinois	93	51,215	90	50,668	..	....	3	547
Kansas	24	155,173	24	155,173	..	....	..	....
Kentucky	13	38,350	13	38,350	..	....	..	....
Louisiana	54	276,388	52	275,188	..	....	2	1,200
New Mexico	1	6,000	1	6,000	..	....	..	....
New York	3	1,650	3	1 650	..	....	..	....
Ohio	36	15,313	34	15,313	..	....	2	* ....
Oklahoma	322	2,298,178	308	2,134,928	8	134,500	6	28,750
Pennsylvania	135	134,062	132	133,462	..	....	3	600
Texas	148	1,438,349	142	1,413,849	1	12,000	5	12,500
Tennessee	1	100	1	100	..	....	..	....
West Virginia	138	410,676	134	402,826	..	....	4	7,850
Wyoming	10	140,400	9	140,400	..	....	1	* ....
Grand total	1,148	6,947,264	1,106	6,680,417	11	173,500	31	93,347

*Capacity not given.

State	Daily Capacity May, 1926 Gallons	Increase May, 1927
Arkansas	117,600	3,060
California	1,206,000	654,700
Illinois	38,435	12,780
Kansas	124,800	30,373
Kentucky	18,300	20,050
Louisiana	213,450	62,938
New Mexico	7,000	*1,000
New York	2,000	*350
Ohio	4,825	10,488
Oklahoma	1,844,630	453,548
Pennsylvania	85,475	48,587
Texas	974,690	463,574
Tennessee		100
West Virginia	381,245	29,431
Wyoming	169,500	30,900
Grand Total	5,128,000	1,819,264

* Decrease

The increase of California, Texas and Oklahoma for the year was 1,571,822 gallons or 86 per cent of the total increase for the entire United States. The increase of approximately 50 per cent in California was greater than any other state. The increase was general in the southern fields of the state. The newer fields of Ventura Avenue, Dominguez and smaller pools, coupled with the extensions in some of the older fields, furnished the casinghead gas supply for the manufacturers who closely followed the drilling of new wells with their plant equipment.

The annual check also shows that the capacities of some of the plants in the old California pools have been enlarged. The explanation of these increases lies in the consolidations which have been made and the fact that more efficient equipment has made possible larger capacities based on output of gasoline.

Prices a Factor

In this connection in explanation of the phenomenal increase in California's natural gasoline production it should be pointed out, that the industry on the West Coast over the greater part of the year had a very strong price incentive to expand its manufacturing facilities. Unlike the rest of the United States California natural gasoline prices were relatively high last year. For 1926 based on weekly quotations of The Oil and Gas Journal, 78-85 absorption, 360-390 endpoint gasoline brought an average price of 14.55 cents a gallon, an increase over the 12.81 cent average price of the previous year which was also relatively high.

In contrast Grade A absorption in Oklahoma, which is representative of the entire east of California market trend, brought an average price of 9.45 cents a decrease from the 12.02-cent average of 1925. Since the first of this year both the California and eastern natural gasoline markets have slumped, the latter however more than the former. The California operators generally for the past two years have had a market higher than the refinery gasoline market which has meant very profitable operation for the industry as a whole.

The large expansion in Oklahoma and Texas during the past year has been explained by some as being due to the relatively favorable market period through 1925 which extended over into a part of 1926. The 12.02 cent average price for Grade A absorption just mentioned did reflect an exceptionally profitable period for the Mid-Continent operators.

The natural result of this period of prosperity included expansion programs on the part of many manufacturers who in their zeal to add to their output contracted for gas supplies which previously were not considered profitable for gasoline extraction. This fact no doubt accounts for part of the increase in plant output during the past year. New plants were built and old plants enlarged to handle additional gas and they have continued to operate despite the fact that prices began to fall so that during the past few weeks at least, the Mid-Continent industry as a unit has been lacking in profits.

Main Reason

The principal reason for the increase in the natural gasoline plant capacity in Texas and Oklahoma however was the bringing in of new oil producing fields with a large flush production of casinghead gas. Plants which have been built or are building in the Seminole pools of Oklahoma and the Panhandle pools of Texas account for the bulk of the increased capacities in the two states.

The capacities of the new plants in the Seminole area is in excess of 400,000 gallons daily at present with at least two additional plants to be built in the near future. Probably no major field has ever been developed in the history of the oil industry where the natural gasoline manufacturer so closely kept pace with the crude oil producer. The gasoline content of the gas is exceptionally high for a new field, averaging at the present time around 4 gallon per 1,000 cubic feet with the additional advantage that the gasoline is easy to treat in securing a finished product. The present actual output of the field is approximately 350,000 gallons daily and this could easily be increased to 500,000 gallons.

Although the Panhandle area of Texas has not been as attractive as the Seminole from the standpoint of the natural gasoline manufacturer, that fact has not prevented a building program which has practically absorbed all the gas available. The gasoline content is only averaging around one gallon per 1,000 cubic feet with objectionable sulphur compounds which have added to the problems of the manufacturer. The present daily capacity of the plants completed or in the process of construction in that area is approximately 400,000 gallons daily with the actual output in excess of 250,000 gallons daily.

Smaller Pools

In addition to these major fields several smaller pools have contributed to the Texas and Oklahoma increases. In Texas these small pools are scattered throughout what is known as the West Texas area with important additions in the older North and Central Texas sections. Some of these fields have just been opened with only one natural gasoline plant for each pool. Many of these pools when price conditions become more favorable will no doubt assume the proportions of major producing areas with corresponding increases in the natural gasoline output.

Some of the older pools have been extended and furnished additional gas supplies. An example of this was the new deep sand production of the Garber Field of Texas. This brought a gas supply which enabled the Sinclair Oil and Gas Co., to more than double the capacity

(Continued on Page 107)

THE BIG TEN

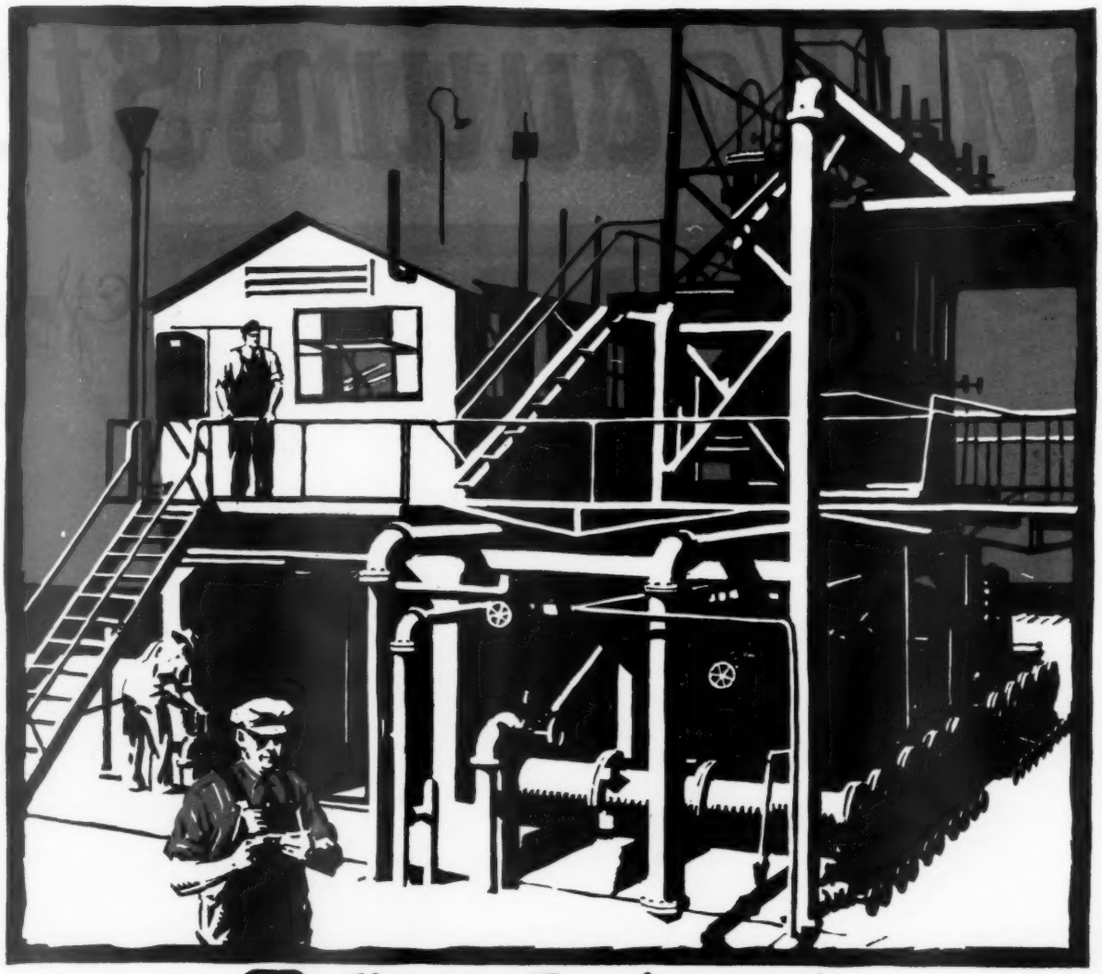
The Phillips Petroleum Co. of Bartlesville, Okla., continues to be the leading manufacturer of natural gasoline in the entire world. The company has had steady expansion in its natural gasoline production during the past year and is now nearing the 600,000-gallon mark.

Two California companies—Standard Gasoline Co., and the Shell Oil Co. of California—are second and third. The first named company is the result of the merger of the Standard Oil Co. of California and the Pacific Gasoline Co.

The first 10 companies given in the following list have a capacity of 2,829,786 gallons daily, or 41 per cent of the total for the entire United States.

Company—	Daily Capacity Gallons
Phillips Pet. Co.	591,000
Standard Gasoline Co.	449,000
Shell Co.	300,000
Sinclair O and G. Co.	270 000
Gulf companies (including Gypsy Oil Co.)	225,736
Chestnut & Smith Corp. (Includes associated companies)	222,500
Carter Oil Co.	221,000
Empire Gasoline Co.	198,000
Marland Refining Co.	181,100
Skelly Oil Co.	171,450

The General Petroleum Co., Virginia Gasoline & Oil Co., California Gasoline Co., Hope Construction & Refining Co. and The Texas Company, closely follow these 10 leading manufacturers.



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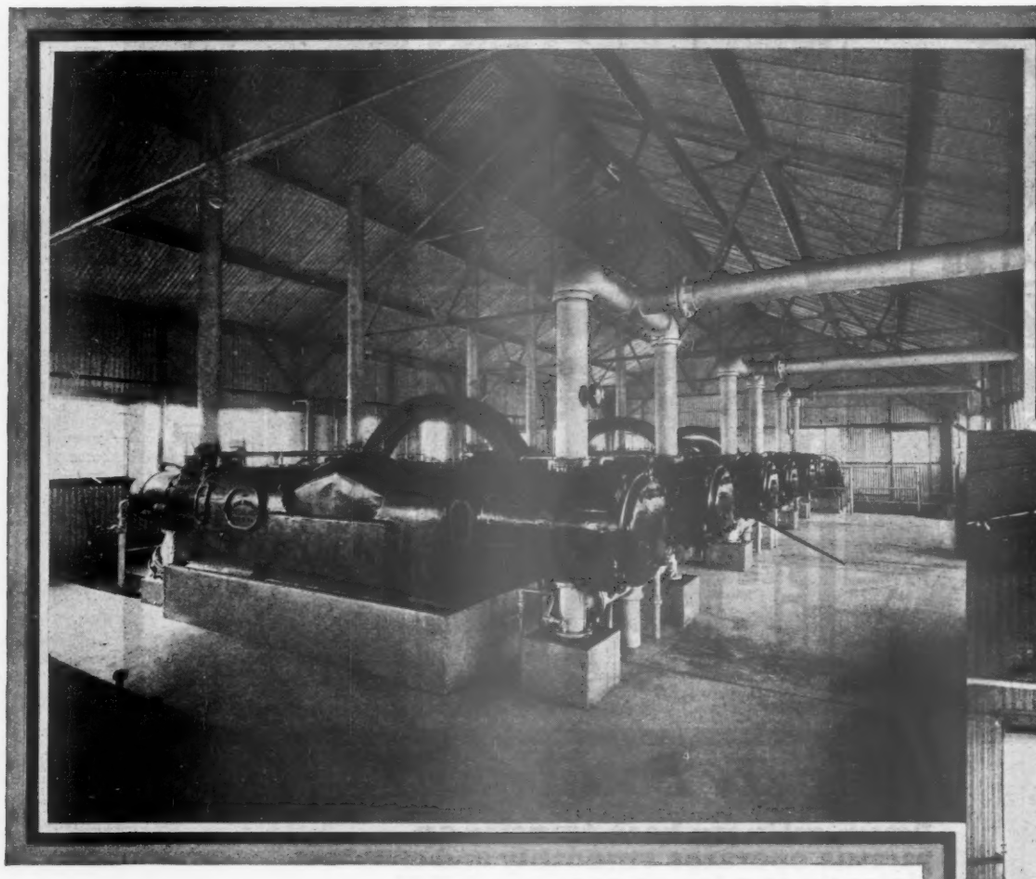

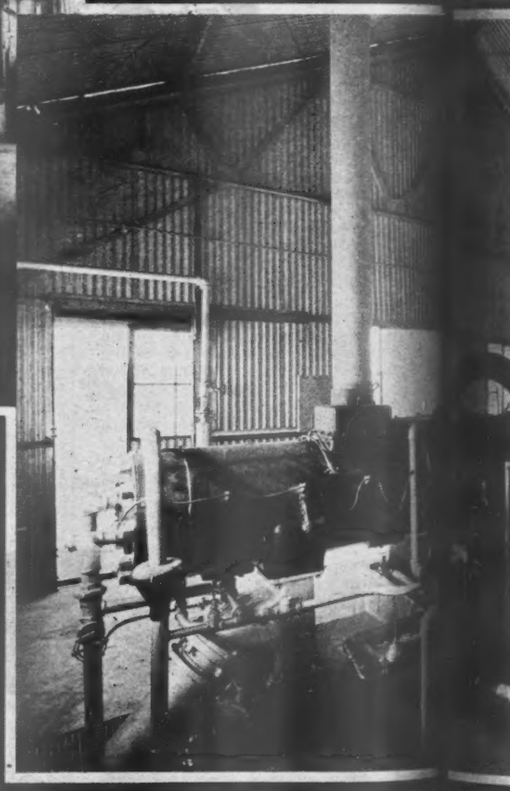

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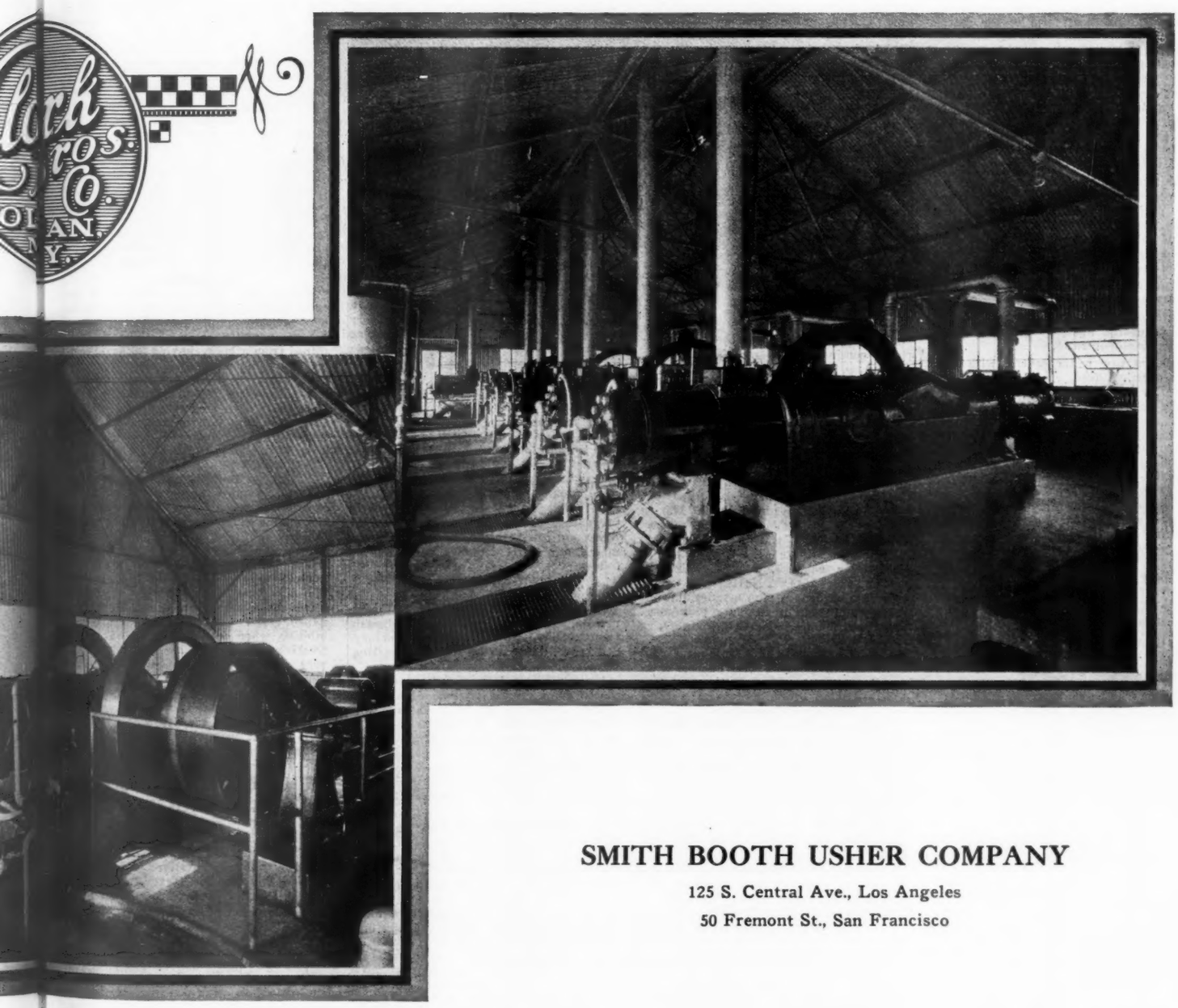

SMITH BOOTH USHER COMPANY

125 S. Central Ave., Los Angeles

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MPRESSORS

Water Treatments, Costs and Reactions

Modern Methods, Analyses, Causes and Troubles Due to Waters, Corrosion and Incrustation

By F. B. Good*

The modern treater consists of a large cylindrical steel tank; in the center of which is a conical tube or downtake, open at the bottom and of sufficient size to retain the water during the mixing period of from 45 to 55 minutes according to volume. The chemicals and the raw water being mixed at the top of this tube in definite proportions continuously. The conical form of the downtake impedes the flow of water, allowing the precipitate to settle as a sludge, and is flushed away through a valve, the water continuing on its way upward through a series of baffles, which knock and retain more of the precipitate, to the filter where the last of the flocculent sediment is removed, the water passing out from the filter soft and clear ready for distribution.

The types of these treaters vary. Some are conical, others have flat bottoms, with perforated pipes for flushing the sludge away. They also have a number of very ingenious devices for proportioning the flow of chemicals to the flow of water.

These consist of the weir or orifice proportioning with variable feed.

Water motors operated by pump pressure, depending upon comparative cylinder displacement ratio.

Constant raw water control with constant chemical feed, tipping bucket and a number of other devices, all of which can be made to give satisfactory service, when given the proper supervision. In fact you can accomplish almost any desired results with one of these plants. The plant I have in mind was designed for 9,000-gallon-hour capacity, and has been treating 12,000 gallons an hour very successfully for the past six years, the raw and treated water having the following analysis:

Raw Water

	Parts per Million	Grains per Gallon
Suspended matter	4.0	0.23
Total solids	418.0	24.25
Silica	14.0	.81
Iron and alumina	1.0	....
Consisting of the ions of—		
Calcium	179.8	
Magnesium	41.5	
Sodium	44.9	
Bicarbonate	145.2	
Sulphate	125.2	
Chloride	5.2	
Hypothetically combined—		
Calcium bi-carbonate	179.8	10.42
Magnesium bicarbonate	41.5	2.40
Magnesium sulphate	128.0	7.48
Sodium chloride	8.6	0.50
Silica	14.0	0.81
Iron and alumina	00.0	0.00
After treatment—		
Mono-carbonate alkalinity	14.0	0.8
Bi-carbonate alkalinity	4.0	0.2
Caustic alkalinity	0.0	0.0
Salt	8.6	0.5
Silica	4.0	0.2

It is obvious from the above analysis of the raw water that it contains approximately 3½ pounds of scale-forming solid per 1,000 gallons of water, these solids being reduced by treatment to less than one-fourth pound to 1,000 gallons of water. If we take the data proposed by some authorities we will find they claim that, for every pound of scale-forming matter removed from the water, you save 13 cents per pound in fuel and boiler efficiency alone, not taking into consideration the intangible saving from the loss of production and from pipe corrosion. If we accept these results we will find that in the above water the company has saved in boiler and fuel alone $121.68 per day or $44,414.20 per year, at a total cost of chemicals for treatment of $6 per day or $2,190 per year. During this period they have not had to boil out an engine jacket with acid or lost one from scale formation. At the same time the water used by them is a split water, not having sufficient capacity to treat the entire volume of water pumped.

*Before Association of Natural Gasoline Manufacturers, Tulsa, Okla.

Compounds

The next treatment taken into consideration, which I consider very bad form but most universally employed at the present time, is the compounds. They are much better than no treatment at all, and there is no doubt but what they have a tendency to prolong the life of your flues, and efficiency to fuel consumed, there being a compound made for every known condition existing in water. For your information I will select two and give you their analysis, from which you can draw your own conclusions:

	Per Cent
No. 1 Compound	
Water	57.91
Sodium carbonate	4.73
Sodium silicate	33.13
Caustic soda	1.03
Undetermined	2.92
No. 2 Compound	
Water	35.27
Sodium carbonate	36.23
Starch	6.05
Sodium phosphate	7.25
Sodium chloride	Trace
Sodium oxide	5.77
Caustic soda	2.30
Sodium chromate	2.30
Mercury	5.55
Kerosene	Trace

Reactions

Reactions occurring in the treater, the same being applied to the boiler compounds when composed of the same compound coming in contact with the same substances.

Sodium carbonate plus aluminum sulphate equal sodium sulphate plus aluminum hydrate, plus carbon dioxide plus water. $3\,Na_2CO_3 + A1_2(SO_4)3 = 3NaSO_4 + A1_2(OH)_6 + CO_2 + H_2O$.

Sodium carbonate plus calcium hydrate equal sodium hydrate plus calcium carbonate. $Na_2CO_3 + Ca(OH)_2 = 2NaOH + CaCO_3$.

Sodium carbonate plus calcium chloride equal sodium chloride plus calcium carbonate. $Na_2CO_3 + CaC1 = 2NaC1 + CaCO_3$.

Sodium carbonate plus carbon dioxite plus water equal sodium bi-carbonate. $Na_2CO_3 + CO_2 + H_2O. = 2\,NaHCO_3$.

Sodium carbonate plus magnesium sulphate equal sodium sulphate plus magnesium carbonate. $Na_2CO_3 + MgSO_4 = Na_2SO_4 + MgCO_3$.

Sodium carbonate plus sulphuric acid equal sodium sulphate plus carbon dioxide plus water. $Na_2CO_3 + H_2SO_4 = Na_2SO_4 + CO_2 + H_2O$.

Calcium Compounds

Calcium hydrate plus carbon dioxide equal calcium carbonate plus water. $Ca(OH)_2 + CO_2 = CaCO_3 + H_2O$.

Calcium hydrate plus carbon dioxide equal calcium bi-carbonate. $Ca(OH)_2 + 2CO_2 = CaH_2(CO_3)_2$.

Calcium hydrate plus calcium bi-carbonate equal calcium mono-carbonate plus water. $Ca(OH)_2 + CaH_2(CO_3)_2 = 2CaCO_3 + H_2O$.

Calcium hydrate plus ferrous sulphate plus water equal calcium sulphate plus ferrous hydrate plus water. $Ca(OH)_2 + FeSO_4 + H_2O = CaSO_4 + Fe(OH)_2 + H_2O$.

Calcium hydrate plus hydrocholoric acid equal calcium chloride plus water. $Ca(OH)_2 + 2HC1 = CaC1_2 + 2H_2O$.

Calcium hydrate plus magnesium monocarbonate equal calcium carbonate plus magnesium hydrate. $Ca(OH)_2 + MgCO_3 = CaCO_3 + Mg(OH)_2$.

Calcium hydrate plus magnesium bicarbonate equal calcium carbonate plus magnesium mono-carbonate. $Ca(OH)_2 + MgH_2(CO_3)_2 = CaCO_3 + MgCO_3$.

Alum

Aluminum sulphate plus calcium oxide equals aluminum hydrate plus calcium sulphate plus water. $A1_2(SO_4)_3 + 18\,H_2O + CaO = A1_2(OH)_6 + 3\,CaSO_4 + 15\,H_2O$.

Aluminum sulphate plus magnesium carbonate equal aluminum hydrate plus magnesium sulphate plus water. $A1_2SO_4 + 18\,H_2O + MgCO_3 = A1_2(OH)_6 + MgSO_4 + 15\,H_2O$.

Aluminum sulphate plus calcium monocarbonate equal aluminum hydrate plus calcium sulphate plus water. $A1_2SO_4 + 18\text{-}H_2O + CaCO_3 = A1_2(OH)_6 + 3CaSO_4 + H_2O$.

The above represent a few of the most important reactions taking place in the treater, and with the compounds they continue as follows: The caustic soda precipitates the carbonates of lime, and in doing so the carbonate of soda is formed which in turn combines with the sulphates of lime forming the sulphate of soda which is harmless. The sodium silicate functions in the same manner only it is colloidal in nature, which has a tendency to prevent the scale from adhering to the tubes and plates. Sodium phosphate is also used in decomposing the sulphates of lime and magnesium, it forming the sulphates of sodium and the phosphates of lime and magnesium. The former remains soluble and is harmless, the latter being deposited in the form of loose crystals. Phosphates also act on the carbonates of lime and magnesium, forming phosphates of them, and at the same time neutralizing the carbonic acid released, the sulphuric being released as a sulphate. Mercury also plays an important duty, especially in waters high in magnesium chloride, which is very corrosive in action. It combines forming mercuric chloride which is precipitated; it will also form an amalgam on the sheets and flues preventing adhesion of incrustants. Kerosene is also supposed to have the faculty of penetrating this scale, preventing it from adhering to the tubes. Those of you who are acquainted with the flotation of ores know that globules of oil will adhere to the sulphates bringing them to the surface. The same applies when kerosene is inserted in a boiler; it adheres to the sulphates preventing them from sticking to the tubes and can be blown off. We can size up all our water troubles and cures as follows:

Troubles Due to Waters

Trouble—

Cause: Chlorides or sulphates of magnesium, sugars and acids; cure, soda ash. Cause: Dissolved carbonic acid and oxygen; cure, lime, caustic soda and heating.

Corrosion—

Cause: Electrolytic action; cure, zinc plates (only in the absence of oxygen.) Cause: Bicarbonates of lime, iron and magnesium; cure, heating feed water, caustic soda lime. Cause: Organic matter; cure, soda ash.

Incrustation—

Cause: Sulphates; cure, soda ash. Cause: Organic matter; cure, alum and filter.

Gas Engine and Compressor Jackets

We find upon the examination of our gas engine jackets a deposit in which the carbonates are predominating. These carbonates are commonly found as limestone or marble; they are not soluble in pure water but are soluble in a water containing free acid. After they are once in solution and a temperature of 200 degrees applied, they are precipitated as common carbonates forming a scale. Whereas it takes a temperature of 290 degrees to precipitate sulphates; this compares to a boiler pressure of about 45 pounds, consequently the gas engine jacket does not reach sufficient temperature for their formation. While in the compressor you will not find either a sulphate or carbonate formation but a formation of algea, which has gone through the temperature of this machine, it changing slightly in looks, but upon examination with a glass you will find it still retains its resemblance to your so-called moss. This nuisance can be removed by the use of copper sulphate in quantities of 5 parts of copper sulphate to the 1,000,000 part of water, and a stronger solution would not hurt if the water is not to be used for drinking. Chlorine also is supposed to be have the same property for the destruction of algea; this can be obtained in the form of calcium chloride. It has about 35 per cent of available chlorine.

Coil Pit

I have an analysis of water from a coil pit, and have reason to believe that this is a fair sample of the condition existing in the great majority of them. Such conditions seem unbelievable in this modern time when elimination of such can be made at such a moderate cost, compared to the destruction that such water as this will create. The water analysis was as follows: Solid water 286½ grain, a little over 3¼ grains of solid matter in suspension, and nearly 20 grains of free acid per United States gallon of 231 cubic inches. Such an acid condition in any water coming in contact with surfaces will cause a corrosion internally or externally that will destroy it years before its time under ordinary conditions.

Comparisons

Comparing conditions existing in the same water, before and after treatment, here are two samples of scale taken from the same water. One of them was obtained from a boiler having 30 days' service and using compounds; the other was taken from a boiler that had seen 75 days of service. Notice the difference: The boiler with treated water scale is a soft mass that can be powdered in the fingers and the untreated boiler scale is a hard compact mass that is very difficult of removal.

Recapitulation

Due to impure water, summed up, we have scale formation in the jackets of the engine cylinders, scale formation on the tubes of the boilers, plus corrosion of steam piping, particularly where live steam is introduced into the steam still, and the so-called separating tanks off the fire still. These troubles by themselves bring about an excessive maintenance cost. Collectively they are prohibitive when we have in mind that a treating plant could be installed at a very nominal cost, with what materials usually found around a gasoline plant, that would eliminate most of these troubles. We may safely say that gasoline ultimately will have its water treated, and in that way eliminate the most of these accumulative troubles.

PHILLIPS WILL BUILD LARGE GASOLINE PLANT

The Phillips Petroleum Co., on June 1, will start work on the construction of another natural gasoline plant in the Panhandle area of Texas. The plant will be located in the Sanford-Paramount Pool, south of the Canadian river in the southwestern part of Hutchinson County. The exact location is Section 82, Block 46, of the H. & T. C. Survey.

The new plant will be built so that additions can be made if necessary to handle more gas as it becomes available. The initial capacity will be around 30,000,000 cubic feet of gas daily. It is expected that the plant will be ready to operate by September 1.

The new plant will give the Phillips company a natural gasoline capacity in the Panhandle area in excess of 200,000 gallons daily. The company was the first to enter the Panhandle Field with natural gasoline plants. The company at present has five main plants in operation with a capacity of 180,000 gallons daily. One plant is located in Carson County and the remainder in Hutchinson County.

Fig. 57
300-lb. Test

Fig. 187
700-lb. Test

Fig. 191
1600-lb. Test

Fig. 781
2500-lb. Test

Fig. 791
2500-lb. Test

Fig. 192
1600-lb. Test

Fig. 188
700-lb. Test

Fig. 58
300-lb. Test

50th Anniversary 1877-1927

KENNEDY

VALVES~PIPE FITTINGS~FIRE HYDRANTS

for oil service

KENNEDY products for the oil industry include Valves for oil or gas of all the required types with test pressure ratings ranging from 300 lbs. to 2500 lbs. per square inch, in addition to a full line of Valves of Cast-Steel, Semi-Steel, Cast-Iron and Bronze, for steam, water or air, and a complete line of Standard Malleable-Iron Screwed and Cast-Iron Flanged Fittings.

A half-century of experience is behind each Kennedy design, and is your safeguard against service troubles and maintenance expense. Ample stocks are maintained by wholesalers for immediate delivery and the manufacturing facilities of two large plants assure prompt shipment of orders for unusual requirements.

Send for the Kennedy Catalog

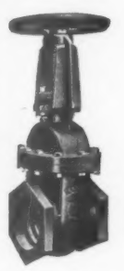
Fig. 601

Fig. 761

Cast Steel
Fig. 908

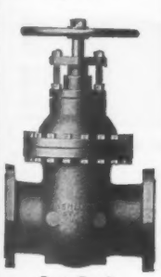
Cast Steel
Fig. 921

Fig. 611

Fig. 76

Cast Steel
Fig. 910

Cast Steel
Fig. 923

THE KENNEDY VALVE MFG. CO., ELMIRA, N.Y.

Branches:
NEW YORK CITY: 128-132 White St.
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BOSTON: 47 India St.
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PHILADELPHIA, CLEVELAND, ATLANTA, LOS ANGELES, SEATTLE, SALT LAKE CITY, EL PASO.

Fig. 150

Fig. 27

Fig. 103

Fig. 301

Fig. 312

Fig. 324

Fig. 201

Fig. 322

Fig. 492

Fig. 40

Fig. 544

TRANSMIGRATION OF TRANSPORTATION

Back in the eighties the town sport had to admit that his velocipede was a 'device of the Devil' when it came to negotiating a grade, for he could no more make a hill than he could ride into the brunt of a hurricane.

Gasoline has given automatic impetus to the old foot pedaling velocipede. With a leap and a bound the motorcycle clears the sandy hill for a new record. In these record breaking climbs NATURAL GASOLINE lends its compliment to the high quality motor fuel required.

A TANK CAR OR A TRAIN LOAD.

CHESTNUT & SMITH CORPORATION

Tulsa, Oklahoma

Lubrication in Natural Gasoline Plants

Ordinary Tests Not Sufficient to Assure Satisfactory Oils for Varied Uses in Plant Operation

By O. S. Wyatt, F. R. Staley and E. R. Lederer*
Texas Pacific Coal and Oil Co.

Efficient lubrication is an essential for good and economical operation in natural gasoline plants as in any other industry which depends largely on the uninterrupted, efficient and low cost operation of its machinery.

The past few years have brought the importance of good lubrication more and more to the foreground. The former practice that any lubricating oil was satisfactory as long as it met certain tests and was cheap, has been discarded. Refinery concerns, which expect to stay in the market, sell their oils today on quality and performance, rather than on price; their trained "lubricating engineers" make a careful and thorough study of each individual plant and engine, use scientific instruments and methods to check the operations of each price of machinery and make—in co-operation with well equipped refinery laboratories—a complete survey of a plant before they recommend the most suitable oil for the service, and guesswork is, therefore, eliminated. Such reliable concerns give now the same service on their lubricating oils as large manufacturers of motors, pumps, compressors and other machinery, furnish to protect their products and their reputation.

Lubricating oils are made at present from many different crudes and by widely different refining methods; only an experienced engineer is capable to recommend the best oil for a given machine and for the particular conditions under which it is operated.

Necessary Qualities

In general, Thomsen states that the lubricant must possess the following qualities:

1. Sufficient viscosity and oiliness to suit the mechanical conditions and the conditions of speed, pressure and temperature. Too little oiliness means excess wear and friction, too high a viscosity means loss of power.
2. It must suit the lubricating system designed for the individual machine.
3. It must not produce—or at least form only a minimum of—deposits during use, when exposed to air, gas, water, dust or other impurities with which the oil must come in contact in performing its duty.
4. The oil must meet the particular physical and chemical tests necessary for the class of work it is to perform.

After the correct oil is found for a given machine, it is necessary that the new supply will run uniform and as nearly constant and economical in its properties at all times; when a lubricator is set for a satisfactory oil feed and a new supply of oil is received, and it varies in its properties from the previous oil used, the lubricator will feed too fast and waste oil, or feed too slow and allow the bearings to run hot. It is, therefore, important that the refiner supplies a product that is always uniform within specified ranges.

Gas engine lubrication deposits may be found on the valves, cylinders and piston rings of the combustion cylinder. They may be formed by dirt and dust from the air, incomplete combustion, over lubrication or an inferior grade of oil, containing impurities or having a high carbon content.

Thomsen states that the frictional losses in a medium size gas engine range from 15 to 30 per cent, and in a large one from 10 to 20 per cent of the rated horsepower; this is constant and independent of the actual engine load. It is easy to waste 5 to 10 per cent of the engine power by unsuitable lubricating oils. Fresh oil only should be used for piston lubrication.

Waste oil from bearings should be collected and if restored and purified in a good filter, can be used again on bearings.

In general the object of lubrication of a gas engine is to provide clean and efficient lubrication to all parts.

Selection of Lubricant

The selection of the proper lubricant for a given machine is, therefore, very important and the customary routine tests to determine flash, fire, viscosity, etc., are not sufficient. Viscosity, of course, is in a certain way a measure for the lubricating value of an oil; however, oils of the same viscosity at a given temperature but made from different crudes might differ in lubricating value and efficiency in the same engine. Other tests are necessary to make sure an oil will suit local and individual operating conditions, like carbon test, volatility, heat test, emulsion test, acidity, etc.

Complicated mechanical apparatus has been devised for mechanical testing of lubricants, in order to match or approach actual operating conditions under which the oil has to stand up.

It is not within the scope of this paper to go into details of this work. We mention it here only to show you that a great deal of study and thought is given the question of a proper lubricant for your engines, and that skilled chemists and engineers are working out for you your lubricating problems.

Four Classes

There are four principal classes of lubrication encountered in natural gasoline plants, i. e.,

1. Power cylinder lubrication of internal combustion engines.
2. Crank case lubrication.
3. Gas compressor cylinder lubrication.
4. Lubrication of auxiliaries such as pumping, equipment, electric motors, generators, etc.

In power cylinder lubrication we get almost entirely away from the fuel complex because natural gas is universally used for fuel. Our main problem here is selecting an oil most suitable for the type of engine in use, its mechanical condition, the load factor under which it is working and its cooling system conditions. There is such an enormous variation in these four conditions just mentioned that each plant must be carefully studied and its individual recommendation worked out.

For instance, in a 2-cycle engine there is a working stroke every revolution, whereas in a 4-cycle engine there is a working stroke every other revolution; therefore, the rate of heat-transfer from the inside of the cylinder to the cooling water must be twice as rapid in a 2-cycle as in a 4-cycle engine to maintain the same piston, ring and internal cylinder wall temperature. Also, if there is no cooling water treating plant and the cooling water is hard and scales badly, this scale will cut down the rate of heat transfer resulting in higher cylinder temperatures and frequently necessitate the use of a heavier oil than would be necessary if soft water or treated water was

(Continued on Page 135)

* Before annual meeting, Association of Natural Gasoline Manufacturers, Tulsa, May 24-26.

Natural Gasoline Standardization

Product Is Logical Blending Material to Secure Uniform Distillation Curve for All Refinery Gasolines

By W. T. Ziegenhain

To say now that natural gasoline is an adulterant, as it was thought to be just a comparatively few years ago, would mean that practically all gasoline is adulterated. The days of the buyer demanding and the refiner supplying straight run gasoline is over for each has learned the best gasoline is one made up of a definite and proportionate series of hydrocarbons, containing sufficient readily volatile hydrocarbons to start combustion and a maximum of the heavier series that will completely vaporize and burn. Straightrun gasoline, in a strict interpretation of the term does not ordinarily fill both requirements. The addition of natural gasoline has been the principal means of supplying the low boiling fractions.

Within the past five years the use of natural gasoline at refineries has increased 665 per cent and the amount now used is 12 per cent of the total gasoline consumed. This increase is remarkable in itself but in addition the refiners have made changes in their operations and have added equipment to recover the refinery vapors and thus tend to cut down the normal amount purchased. The crude oil producers have also installed vapor-tight equipment in the fields to decrease the losses. The pricing of crude oil on the gravity basis stimulated this move and this in turn caused the refiners to put in more efficient condensers, vapor-tight treating, storage and loading systems. The effect of these operating changes in the average refinery making a 50 per cent yield of gasoline and balanced for cracking the normal yield of gas oil, is to add about 2 per cent to the gasoline yield.

This means that after adding this equipment the refinery will make about 52 per cent gasoline. If the refiner has been purchasing natural gasoline equivalent to 12 per cent of his shipments, which is normal, this volume is equal to 6 per cent of the crude purchased. When 2 per cent of the 6 per cent is thus recovered by the refinery, the purchases of natural gasolines will be reduced about 30 per cent.

Influence of Price

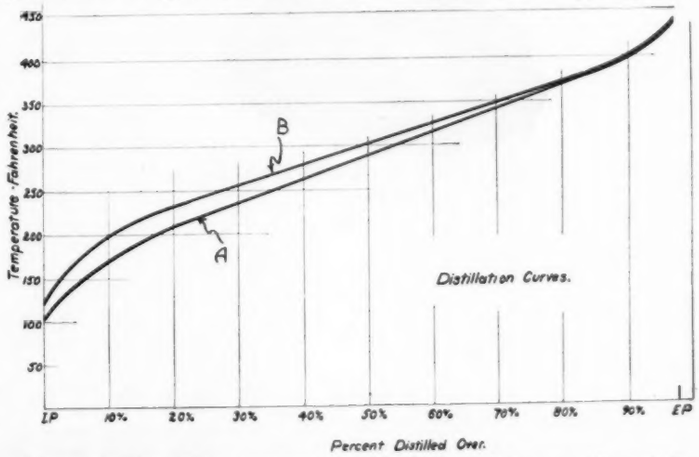
But irrespective of these changing operation conditions, the refiners are also influenced in its use by its price. When the price of natural gasoline delivered, is above that of U. S. Motor gasoline, the amount usually blended into the refinery production is just enough to meet the gravity or the initial specifications and when it costs less than what it can be sold for in the finished blend the tendency is to "load" the refinery gasoline to its maximum. Many of the same factors that have to do with the price of refinery gasoline also influence the price of natural gasoline and in general the trends are the same but greater extremes develop in natural gasolines because it can not be stored as economically as refining gasoline and the production must be moved within a relatively short time.

At times, particularly in summer when the natural gasoline production is limited by the lesser gas run and the lower recovery and when evaporation is highest, there is a ready movement of natural gasolines. As the refiners are shipping their stocks of weathered gasoline and running up the heavy stored distillates, the demand often occasions prices above normal.

Need of Standardization

Thus, the refiner is obliged to closely follow the natural gasoline market but too often allows it to influence the quality of his gasoline. The practice of materially varying the amount of natural gasoline blended with the refinery gasoline does not promote standardization either in the oil industry or the motor industry and the effect is costly from a conservation

(Continued on Page 126)



Curves showing (B) a representative blend of straight run and cracked gasoline and (A) the curve—an assumed standard gasoline—after 14 per cent of Grade AA has been added.

—ask us another?

THEODORE N. BARNSDALL
Founder

1 HOW long has the name of Barnsdall been identified with the petroleum industry?

Ever since the discovery of petroleum in the year 1859—68 years ago.

—B—

2 HOW was the Corporation named Barnsdall?

For Theodore N. Barnsdall, pioneer oil man, whose father, William Barnsdall, built the first refinery in the United States.

—B—

3 HOW much assets has Barnsdall?

Over Seventy Million Dollars. ($71,190,773.15)

—B—

4 HOW many stockholders has Barnsdall?

Over 4,500.

—B—

5 HOW many subsidiary companies has Barnsdall?

27—Twenty-seven—27.

—B—

6 HOW many branches of the petroleum industry is Barnsdall engaged in?

All branches—Finding—Leasing—Developing—Drilling—Producing—Transporting—Refining—Marketing—Distributing—Exporting.

—B—

7 HOW much Crude Oil per day is produced by Barnsdall?

Over 30,000 barrels.

—B—

8 HOW many miles of pipe line has Barnsdall?

450 miles of main and gathering lines with pumping stations to transport the crude to the three refineries.

—B—

9 HOW many producing oil wells has Barnsdall?

Over 3,000.

—B—

10 HOW many acres of oil leases has Barnsdall?

Over 200,000 acres from Pennsylvania to California.

—B—

11 HOW many refineries has Barnsdall?

3—MODERN REFINERIES—3 located at Barnsdall, Okla., Wichita, Kan., and Okmulgee, Okla.

—B—

12 HOW many natural gasoline plants has Barnsdall?

12—Twelve—12.

BARNSDALL

BARNSDALL

13 HOW many different Petroleum Products are manufactured by Barnsdall?

Gasoline—Kerosene—Naphtha—Furnace Oil—Gas Oil—Fuel Oil—Motor Oils—Cylinder Stocks—Bright Stocks—Red and Pale Oils—Wax—Petrolatum and all grades of Lubricating Oils, the principal trade mark brand being Be Square.

14 HOW much Crude Oil per day can be refined at the three refineries of Barnsdall?

Over 20,000 barrels.

15 HOW many bulk depots and gasoline stations has Barnsdall?

326—located in the States of Arkansas, Missouri, Kansas and Oklahoma.

16 HOW many Automobiles, Trucks and Tractors has Barnsdall?

328—in the oil fields and cities and towns where Barnsdall products are distributed.

17 HOW many tank cars has Barnsdall?

1058 steel cars of 8,000 and 10,000 gallon capacity, with a small fleet of three-compartment cars for lubricating oils.

18 HOW much storage for Crude and Refined Products has Barnsdall?

Over 100 Million Gallons.

19 HOW many dollars was received for products last year by Barnsdall?

Over Thirty Million Dollars. ($30,344,855.81)

20 HOW many trade marks has Barnsdall?

BE SQUARE Motor Oils

BIGHEART Cylinder Stocks

BARNSDALL Lubricating Oils

SUPER-GAS Wonder Motor Fuel

21 HOW and where are Barnsdall products exported?

Through the ports of New Orleans and Mobile to Continental Europe and South America.

22 HOW many employees has Barnsdall?

Over twenty-four hundred.

23 HOW are the employees protected that work for Barnsdall?

Each employee and his wife are insured after the employee has been in service six months. Premiums being paid by Barnsdall.

—from the oil well to the jobber

—ask us another ?

BARNSDALL REFINERIES, INC.

Executive Offices: **Petroleum Building Tulsa, Okla.** *Subsidiary* **BARNSDALL** *Corporation* *General Sales Offices:* **624 S. Michigan Ave. Chicago, Ill.**

New York — Pittsburgh — St. Louis — Kansas City — Los Angeles — St. Paul

Mr. Lewis and Joe Choose an Engine

Mr. Lewis, superintendent of the gasoline department, and Joe Rolland, head engineer at the compressor station, look at an engine from slightly different viewpoints.

Mr. Lewis thinks of the balance sheet at the end of the year and how it may be affected by investment charge, maintenance costs, fuel consumption, lubricating oil consumption and last, will his choice ever cause his associates or friends to say, "Well, you will remember I advised buying a different engine."

Joe thinks in terms of the work required to keep the engine on the load day after day. Are adjustments easily made? Will there be frequent messy replacements to make? Can he show an operating record which may bring him recognition, perhaps promotion? Will he ever need to defend his choice with his boss?

The steadily increasing sales record of Cooper engines and compressors is the surest indication that men in both positions prefer to play safe by choosing Coopers.

THE C. & G. COOPER CO.

Dallas, Texas Mt. Vernon, Ohio Los Angeles, Cal. Tulsa, Okla.

COOPER

GASOLINE INDUSTRY HAS RECORD GROWTH

(Continued from Page 96)

of its Garber plant so that it is now one of the largest single plants of the industry.

As shown in the table at the beginning of this article the smaller producing states also have generally increased their gasoline output. In this connection it should be stated that a few older plants are listed in this year's survey which previously had not been reported. These plants however in most cases were small plant of 15, 25, 50 and 100 gallons capacity. These plants in natural gasoline manufacture where total ounput is now measured in millions of gallons daily have little industrial significance even when considered collectively. There is the additional fact that a large part of the output is mixed with crude in pipe lines and does not become a finished product until the crude has been refined. The usual routine operations in the fields east of the Mississippi have added somewhat to the available gas and in most cases this gas is finding its way to gasoline plants. Some of the eastern companies are improving their manufacturing methods and this fact also has tended to increase the capacities given in this year's survey.

Other States

The states of Kansas, Louisiana, Arkansas and Wyoming while relatively small in total output when compared to Texas, Oklahoma and California increased their output during the year. The fact that these states did not bring in any large new fields accounts for the smaller increases.

Type of Plants

The oil absorption method of gasoline extraction continues to increase more rapidly than the compression method. The oil absorption method including the combination absorption and compression plants as shown in the accompanying detailed plant report accounts for approximately 80 per cent of the total capacity. The detailed plant reports show a noticeable increase in charcoal absorption installations.

Some manufacturers are using the charcoal method to handle residue gas while others are using the charcoal to replace the oil absorption in the main operation. The charcoal portable units also have been introduced to the industry during the past year. Considerable experimental work also is under way with the charcoal method and this may result in still greater expansion during the coming year.

Consolidations

The reader who endeavors to check the individual plant operations of this year's survey against that of last year will find quite a number of plants and companies missing. Several important sales and consolidations were made during the year. In several instances after the sale was made the new owners merged the operations of two or more plants dismantling the shutdown equipment. The most notable merger of the year was that of the Standard Oil Co., of California and the Pacific Gasoline Co., under the name of the Standard Gasoline Co., which is now a subsidiary organization of the first named company. The Pacific Gasoline Co., previous to the merger was the largest manufacturer on the coast with the Standard output among the largest. The combined operations give an output which is not only the largest on the West Coast but is second for the entire country.

The Richfield Oil Co., is another California company which has greatly increased its natural gasoline plant output. This company during the past year has purchased the plants of other manufacturers and built new plants. The California Gasoline Corporation has also become a major manufacturer through consolidations and purchases. East of California, The Texas Company Humble Oil and Refining Co., and the Magnolia Petroleum Co., are among the large manufacturers which have taken over the holdings of smaller concerns.

Shut Down Plants

Many will be surprised at the relatively insignificant number of plants which are shut down. Dut to the unfavorable market east of California since the first of the year it has been assumed by some that many plants were shut down as a result of unprofitable operation. A few manufacturers in answering their questionnaires stated that their plants were shut down pending high prices.

Those actually engaged in the business are aware that any general shut down of natural gasoline plants is practically impossible regardless of market conditions. The manufacturers usually are obligated to take the gas supply from producers at all times and pay for same at a certain graduated price based on the price received for the finished gasoline. Due to these and other contractual agreements coupled with the operating conditions peculiar to the industry, the manufacturer generally finds it expedient to operate at all times regardless of current profits.

LARGEST PLANT

The Shell Co. of California has the largest single plant of the natural gasoline industry. One of its plants in the Ventura Field of California has a capacity of 130,000 gallons daily. This is an oil absorption plant. The company also has a small charcoal plant in the same field.

The importance of this one major plant is apparent when it is compared with the government reports for 1914 which show that all the plants in operation at that time had an output of approximately 120,000 gallons daily.

The Ohio Oil Co., with headquarters in Findlay, Ohio, with 50 plants, has the largest number of units. This total does not include four plants of the Mid-Kansas Oil & Gas Co., a subsidiary organization. The Ohio's plants are scattered in the Central West and Mid-Continent fields. In number of plants the Ohio Oil Co. is followed by the Standard Gasoline Co., which has 43 and the South Penn Oil Co. and the Phillips Petroleum Co. with 39 each.

NATURAL GASOLINE PLANTS BY STATES

Abbreviations used: Oil absorption, absp.; compression, comp.; oil absorption and compression, A.-C. All capacities given in gallons daily.

ARKANSAS

Company and Plant Address—	Field Location—	Type of Plant	Daily Capacity Gallons
El Dorado Gasoline Co., El Dorado	El Dorado	Comp.	1,500
Gillmore, Forest E., Norphlet	NE cor. Norphlet	Absp.	3,000
Gilliland Oil Co., Louann	Smackover Field	Absp.	20,000
Henderson Co., The, El Dorado	Sec. 8-18-15, El Dorado	Absp.	20,000
Lisbon Gasoline Co., Shreveport	Lisbon	C-A	5,000
Louisiana Oil Ref. Corp., Shreveport	Sec. 15s-16w, Ouachita	Absp.	†2,000
Magnolia Petroleum Co., Union	Sec. 26-15s-17w	Comp.	50
Magnolia Petroleum Co., Union	Sec. 7-16s-15w	Comp.	120
Magnolia Petroleum Co., Union	Sec. 8-17s-16w	Comp.	1,690
Natural Gas & Fuel Corp., El Dorado	Sec. 31-17-15, Union County	C-A	4,500
Natural Gas & Fuel Corp., Upland	Sec. 33-18-15, Union County	Absp.	1,800
Natural Gas & Fuel Corp., Louann	Sec. 24-15-17, Ouachita	Absp.	10,000
Natural Gas & Fuel Corp., Norphlet	Sec. 17-16-15, Union County	Absp.	*
Simms Oil Co., Smackover	Sec. 29-15w-15s, Smackover Field	Char.	6,500
Simms Oil Co., Smackover	Sec. 9-15w-16s, Smackover Field	C-A	6,500
Skelly Oil Co., El Dorado	Sec. 9-17-16	Absp.	5,500
Standard Oil Co. of Louisiana, El Dorado	Sec. 7-18s-15w	C-A	28,000
Standard Oil Co. of Louisiana, Kenova	Sec. 32-15s-15w	C-A	1,500
Total			120,660

†Building. *Shut down.

CALIFORNIA

Company and Plant Address—	Field Location—	Type of Plant	Daily Capacity Gallons
Ahlburg Gasoline Co., Los Angeles	Huntington Beach	Absp.	1,000
American Gasoline Corp., 911 Chapman Bldg., Los Angeles	Dominguez	Absp.	7,500
American Gasoline Corp., 911 Chapman Bldg., Los Angeles	Inglewood	Absp.	*2,000
Beiridge Oil Co., Santa Fe Springs	Elk Hills	Absp.	5,000
Bailell Gasoline Co., Los Angeles	Maricopa	Absp.	2,500
Bankline Oil Co., Los Angeles	Long Beach	C-A	20,000
Brea Canyon Oil Co., Los Angeles	Fullerton	Comp.	700
Calestoco Gasoline Co., Los Angeles	Huntington Beach	Absp.	4,000
California Gasoline Co., Signal Hill	Anderson & Dawson Ave.	Abps.	16,000
California Gasoline Co., Signal Hill	Hill St. & Orange Ave.	Absp.	16,000
California Gasoline Co., Signal Hill	Anderson & Atlantic Ave.	Absp.	16,000
California Gasoline Co., Athens	Vaughn lease	Absp.	10,000
California Gasoline Co., Long Beach	Wardlow Rd. & Cedar Ave.	Absp.	15,000
California Gasoline Co., Signal Hill	Harlow Kent lease	Absp.	16,000
California Gasoline Co., Santa Fe Springs	Stanley-Patterson lease	Absp.	16,000
California Gasoline Co., Huntington Beach	Chrystal & Bolsa Sts.	Absp.	10,000
California Gasoline Co., Montebello	San Gabriel & Lincoln Rd.	Absp.	3,000
California Gasoline Co., Huntington Beach	Chrystal & Bolsa Sts.	Absp.	16,000
Calumet Oil Co., 517 I. W. Hellman Bldg., Los Angeles	Sec. 3-3-19	Absp.	600
Canadian Pacific Oil Co., Los Angeles	Fillmore	Absp.	200
Central Oil Co., Los Angeles	Whittier	Absp.	400
Cowan Oil & Ref. Co., 514 Merchants Bank Bldg., Los Angeles	Athens	Absp.	10,000
Coalinga Empire Oil Co., Coalinga	Coalinga	Absp.	500
Evans, Hugh B., Maricopa	Maricopa	Absp.	1,000
Export Refining Corp., 709 Higgins Bldg., Los Angeles	Torrance	Absp.	20,000
Field, O. C., Gasoline Corp., 609 Board of Trade Bldg., Los Angeles	Huntington Beach	Absp.	13,000
Field, O. C., Gasoline Corp., 609 Board of Trade Bldg., Los Angeles	Maricopa	Absp.	1,500
Field, O. C., Gasoline Corp., 609 Board of Trade Bldg., Los Angeles	Huntington Beach	Absp.	5,000
Fullerton Oil Co., R. F. D. No. 3, Box 34, Fullerton	Brea-Olinda	C-A	5,000
General Petroleum Corp., Alamitos	Alamitos	Absp.	25,000
General Petroleum Corp., Santa Fe Springs	Santa Fe Springs	Absp.	25,000
General Petroleum Corp., Long Beach	Long Beach	Absp.	10,000
General Petroleum Corp., Placentia	Tonner	Absp.	*15,000
General Petroleum Corp., Ventura	Ventura	Absp.	40,000
General Petroleum Corp., Ventura	Ventura	Absp.	12,000
General Petroleum Corp., Ventura	Ventura	Absp.	*12,000
General Petroleum Corp., Ventura	Athens	Absp.	*12,000
Gilmore Gasoline Co., 2423 East Twenty-eighth St., Los Angeles	Long Beach	Absp.	10,000
Gilmore Gasoline Co., Maricopa	Maricopa	Absp.	1,000
Granian Absorption Co., Los Angeles	Midway	Absp.	1,000
Guardian Gasoline Corp., Los Angeles	Maricopa	Absp.	2,000
Highway Gasoline Co., Los Angeles	Ventura Ave.	Absp.	3,000
Holly Oil Co., Huntington Beach	Holly & Garfield Sts.	C-A	7,000
Honolulu Consolidated Oil Co., Los Angeles	Midway	C-A	10,000
Hurley-Smith, Los Angeles	Coyote	Absp.	*300
La Habra Gasoline Co., Los Angeles	Brea	C-A	5,000
Lomita Gasoline Co., P. O. Box 669, Long Beach	Jergins lease	Absp.	18,000
Lovell Gasoline Co., Los Angeles	Midway	C-A	8,000
Lovell Gasoline Co., Los Angeles	Torrance	Absp.	5,000
Montebello Oil Co., Fillmore	Shields lease	Absp.	2,500
National Gas Conservation Co., Los Angeles	Dominguez	Absp.	2,000
National Products Co., Los Angeles	Midway	Absp.	3,000
Norwalk Co., 310 Sansome St., San Francisco	Sec. 6-3s-11w, S. B. B. & M.	Absp.	25,000
Olinda Gasoline Co., Los Angeles	Olinda	Comp.	5,000
Pan American Petroleum Co., 927 Petroleum Securities Bldg., Los Angeles	T. 31s, R. 24e, M. D. M.	C-A	15,000
Pan American Petroleum Co., 927 Petroleum Securities Bldg., Los Angeles	Lomita	C-A	3,500
Pan American Petroleum Co., 927 Petroleum Securities Bldg., Los Angeles	Signal Hill	C-A	12,000
Petroleum Securities Co., 927 Petroleum Securities Bldg., Los Angeles	Baldwin Hills	C-A	8,000
Petroleum Securities Co., 927 Petroleum Securities Bldg., Los Angeles	Ventura	C-A	3,000
Petroleum Securities Co., 927 Petroleum Securities Bldg., Los Angeles	Naples	C-A	30,000
Rancho La Brea Oil Co., R. F. D. No. 49, Los Angeles	Los Angeles	C-A	5,000
Reservoir Hill Gasoline Co., 714 South Hill St., Los Angeles	Signal Hill	Absp.	14,000
Rice Ranch Oil Co., Orcutt	Brookshire property	Absp.	2,000
Rice Ranch Oil Co., Orcutt	Rice ranch property	Absp.	3,500
Rio Grande Oil Co., 714 South Hill St., Los Angeles	Santa Fe Springs	Absp.	6,000
Richfield Oil Co., Route 3, Box 328-A, Long Beach	Rosecrans	Absp.	14,000
Richfield Oil Co., Route 3, Box 328-A, Long Beach	Athens	Absp.	12,000
Richfield Oil Co., Route 3, Box 328-A, Long Beach	Signal Hill	Absp.	8,000
Richfield Oil Co., Route 3, Box 328-A, Long Beach	Signal Hill	Absp.	5,000
Richfield Oil Co., Route 3, Box 328-A, Long Beach	Signal Hill	Absp.	8,000
Richfield Oil Co., P. O. Box 446, Fellows	Fellows	Absp.	2,500
Richfield Oil Co., P. O. Box 446, Fellows	Maricopa	Absp.	3,000
Richfield Oil Co., P. O. Box 6, Huntington Beach	Huntington Beach	Absp.	10,000
Richfield Oil Co., P. O. Box 6, Huntington Beach	Huntington Beach	Absp.	15,000
Richfield Oil Co., P. O. Box 6, Huntington Beach	Seal Beach	Absp.	20,000
Ryan and Hackett Co., Signal Hill	Twenty-third & Molino Sts.	Absp.	2,000
Shell Co. of California, 200 Bush St., San Francisco	Brea Canyon	Absp.	40,000
Shell Co. of California, 200 Bush St., San Francisco	Dominguez	Absp.	32,000
Shell Co. of California, 200 Bush St., San Francisco	Dominguez	Char.	7,500
Shell Co. of California, 200 Bush St., San Francisco	Inglewood	Absp.	10,000
Shell Co. of California, 200 Bush St., San Francisco	Long Beach	Absp.	60,000
Shell Co. of California, 200 Bush St., San Francisco	Long Beach	Char.	7,500
Shell Co. of California, 200 Bush St., San Francisco	Ventura	Absp.	130,000
Shell Co. of California, 200 Bush St., San Francisco	Ventura	Char.	5,000
Shell Co. of California, 200 Bush St., San Francisco	Santa Maria	Absp.	4,000
Shell Co. of California, 200 Bush St., San Francisco	Coalinga	Absp.	4,000
Signal Gasoline Co., 727 West Seventh St., Los Angeles	Signal Hill	Absp.	11,000
Signal Gasoline Co., 727 West Seventh St., Los Angeles	Signal Hill	Absp.	8,000
Signal Gasoline Co., 727 West Seventh St., Los Angeles	Signal Hill	Absp.	15,000
Signal Gasoline Co., 727 West Seventh St., Los Angeles	Signal Hill	Absp.	15,000
Standard Engineering Co., Los Angeles	Newhall	Absp.	10,000
Standard Engineering Co., Los Angeles	Riverside	Absp.	2,000
Standard Gasoline Co., P. O. Box S, Taft:			
36-R plant	Northern division	Absp.	5,500
1-C plant	Northern division	Absp.	30,000
2-C plant	Northern division (Included with 1-C)	Booster	
16-D plant	Northern division	Absp.	10,000
9-D plant	Northern division (Included with 7-D)	Booster	
7-D plant	Northern division	Absp.	25,000
23-D plant	Northern division	Absp.	3,000
35-S plant	Northern division	Absp.	5,000
31-B plant	Northern division	Absp.	6,000
29-G plant	Northern division	Absp.	15,000
33-G plant	Northern division (Included with 29-G)	Absp.	
19-G plant	Northern division	Absp.	11,000

CALIFORNIA (Continued)

Company and Plant Address—	Field Location—	Type of Plant	Daily Capacity Gallons
31-E plant	Northern division	Absp.	6,500
Kern No. 2 (Wheeler Ridge)	Northern division	Absp.	500
(The post office address of all plants in the Northern division of the Standard Gasoline Co. is P. O. Box S. Taft, Calif.)			
Standard Gasoline Co.:			
Huntington Beach No. 1	Southern division	Absp.	15,000
Huntington Beach No. 2	Southern division	Absp.	11,000
Huntington Beach No. 3	Southern division	Absp.	40,000
Huntington Beach No. 4	Southern division	Absp.	30,000
Huntington Beach No. 7	Southern division	Absp.	17,000
Seal Beach No. 1	Southern division	Absp.	14,000
Santa Fe Springs No. 2	Southern division	Absp.	18,000
Santa Fe Springs No. 3	Southern division	Absp.	1,500
Santa Fe Springs No. 4	Southern division	Booster	
Santa Fe Springs No. 5	Southern division	Booster	
Santa Fe Springs No. 6	Southern division	Absp.	20,000
Long Beach No. 1	Southern division	Absp.	6,500
Long Beach No. 2	Southern division	Absp.	5,500
Long Beach No. 3	Southern division	Absp.	2,500
Athens	Southern division	Absp.	4,000
Dominguez	Southern division	Absp.	8,000
Torrance No. 2	Southern division	Absp.	2,500
Torrance No. 3	Southern division	Absp.	1,600
Inglewood No. 1	Southern division	Absp.	3,000
Inglewood No. 2	Southern division	Absp.	4,000
Inglewood No. 3	Southern division	Absp.	8,000
Murphy-Coyote No. 2	Southern division	Absp.	25,000
Montebello Nos. 1 and 2	Southern division	Absp.	4,000
Kraemer	Southern division	Absp.	20,000
Brea	Southern division	Absp.	4,500
Newhall	Southern division	Absp.	900
(The post office address of all plants in the Southern division is Whittier, Calif.)			
Standard Gasoline Co.:			
Ventura Nos. 1 and 3	Ventura division	Absp.	13,000
Ventura No. 2	Ventura division	Absp.	21,000
Ventura No. 4	Ventura division	Absp.	33,000
(The post office address of all plants in the Ventura division is P. O. Box 96, Ventura, Calif.)			
St. Helens Petroleum Co., Ltd., Los Angeles	Brea	Absp.	200
St. Helens Petroleum Co., Ltd., Los Angeles	Montebello	Absp.	2,000
Torrance Gasoline & Ref. Co., Los Angeles	Torrance	Absp.	8,000
Union Oil Co. of California, Union Oil Bldg., Los Angeles:			
Stearns lease	Brea	Absp.	2,000
Hellman lease	Dominguez	Absp.	50,000
Copeland lease	Huntington Beach	Absp.	9,000
Torrey lease	Ventura	Absp.	750
Newlove lease	Orcutt	Absp.	24,000
Morse lease	Richfield	Absp.	15,000
Morse lease	Richfield	Absp.	20,000
Rosecrans lease	Rosecrans	Absp.	30,000
Bell lease	Santa Fe Springs	Absp.	12,000
United States Refining Co., 709 Higgins Bldg., Los Angeles	Davidson Ctiy	Absp.	15,000
Universal Oil Co., Lost Hills	Lost Hills	Absp.	3,000
Ventura Refining Co., Santa Paula	South Mountain	Comp.	15,000
West Coast Refining Co., Placentia	Richfield	Absp.	50,000
Wilshire Oil Co., Inc., Santa Fe Springs	Sec. 7-3s-11w	Absp.	50,000
Wilshire Oil Co., Inc., Huntington Beach	Block 218	Absp.	50,000
Total			1,860,750

†Building. *Shut down.

ILLINOIS

Company and Plant Address—	Field Location—	Type of Plant	Daily Capacity Gallons
American Oil Dev. Co. of W. Va., Pittsburgh, Pa.	Wall Plant, Crawford Co.	Comp.	215
American Oil Dev. Co. of W. Va., Pittsburgh, Pa.	Akeman Plant, Crawford County	Comp.	95
American Oil Dev. Co. of W. Va., Pittsburgh, Pa.	Richart Plant, Crawford County	Comp.	48
Arkansas Fuel Oil Co., Pittsburgh, Pa.	Ikemire lease, Crawford County	Comp.	500
Associated Producers Co., Bradford, Pa.	Lawrence County	Comp.	1,600
Bell Brothers, Robinson	Crawford County	Comp.	130
Bell Brothers, Robinson	Cumberland County	Comp.	150
Big Four Oil & Gas Co., Pittsburgh, Pa.	Lawrence County (3)	Comp.	1,800
Brenneman & MacDonnel, Oblong	Sec. 6-6-13	Absp.	1,000
Brenneman & MacDonnel, Oblong	Sec. 7-7-13	Comp.	250
Bruner, A., & Co., Tulsa, Okla.	NE Sec. 36-3-12, Lawrence County	Comp.	250
Cheuvront Oil Co., Oblong	Mitchell heirs farm	Comp.	60
Cheuvront & Stranahan Co., Oblong	McColpin farm	Comp.	60
Grace, Charles, Robinson	Crawford County	Comp.	100
Hiteshaw, W. B., Robinson	Crawford County	Comp.	200
Illinois Gasoline Co., Bridgeport	Bridgeport	Comp.	100
International Oil & Gas Co., Washington, Pa.	Crawford County	Comp.	2,000
Kennedy, W. C., Co., Bradford, Pa.	Crawford County (4)	Comp.	400
Kewanee Oil & Gas Co., Robinson	Crawford County (5)	Comp.	500
Liberty Oil & Gas Co., Warren, Pa.	Lawrence County (2)	Comp.	150
Liberty Oil & Gas Co., Warren, Pa.	Oblong	Comp.	150
Lord, Henry C., Robinson	Section 17-6n-13w	Comp.	*100
Mahutska Oil Co., Robinson	Oblong Twp., Crawford County (3)	Comp.	1,800
Mahutska Oil Co., Robinson	Martin Twp., Crawford Co.	Comp.	200
Mallory & Crawford, Bradford, Pa.	Crawford County	Comp.	500
Nolan & Lamberton, Tulsa, Okla.	NE SW Sec. 12-7-14	Comp.	35
Ohio Oil Co., Bridgeport	Sec. 6, Bridgeport Twp., Lawrence County	Comp.	1,170
Ohio Oil Co., Bridgeport	Sec. 9, Bridgeport Twp., Lawrence County	Comp.	570
Ohio Oil Co., Bridgeport	Sec. 31, Bridgeport Twp., Lawrence County	Comp.	1,050
Ohio Oil Co., Bridgeport	Sec. 5, Bridgeport Twp., Lawrence County	Comp.	1,400
Ohio Oil Co., Bridgeport	Sec. 36, Bridgeport Twp., Lawrence County	Comp.	375
Ohio Oil Co., Bridgeport	Sec. 17, Bridgeport Twp., Lawrence County	Comp.	770
Ohio Oil Co., Bridgeport	Sec. 6, Dennison Twp., Lawrence County	Comp.	270
Ohio Oil Co., Bridgeport	Sec. 34, Dennison Twp., Lawrence County	Comp.	1,190
Ohio Oil Co., Bridgeport	Sec. 35, Dennison Twp., Lawrence County	Comp.	990
Ohio Oil Co., Bridgeport	Sec. 35, Dennison Twp., Lawrence County	Comp.	1,000
Ohio Oil Co., Bridgeport	Sec. 26, Dennison Twp., Lawrence County	Comp.	1,500
Ohio Oil Co., Bridgeport	Sec. 35, Dennison Twp., Lawrence County	Comp.	1,500
Ohio Oil Co., Bridgeport	Sec. 21-22, Dennison Twp., Lawrence County	Comp.	390
Ohio Oil Co., Bridgeport	Sec. 25, Dennison Twp., Lawrence County	Comp.	1,200
Ohio Oil Co., Bridgeport	Sec. 13, Lawrence Twp., Lawrence County	Comp.	500
Ohio Oil Co., Bridgeport	Sec. 32, Lawrence Twp., Lawrence County	Comp.	1,050
Ohio Oil Co., Bridgeport	Sec. 30, Petty Twp., Lawrence County	Comp.	570
Ohio Oil Co., Bridgeport	Sec. 29, Petty Twp., Lawrence County	Comp.	1,800
Ohio Oil Co., Bridgeport	Sec. 24, Petty Twp., Lawrence County	Comp.	350
Ohio Oil Co., Bridgeport	Perry King farm, Petty Twp., Lawrence County	Comp.	500
Ohio Oil Co., Bridgeport	Sec. 30, Petty Twp., Lawrence County	Comp.	1,140
Ohio Oil Co., Marshall	Sec. 35, Casey Twp., Clark County	Comp.	124
Ohio Oil Co., Marshall	Sec. 26, Casey Twp., Clark County	Comp.	241
Ohio Oil Co., Marshall	Sec. 18, Union Twp., Cumberland County	Comp.	1,150
Ohio Oil Co., Marshall	Sec. 13, Union Twp., Cumberland County	Comp.	437
Ohio Oil Co., Robinson	Sec. 11, Licking Twp., Crawford County	Comp.	*109
Ohio Oil Co., Robinson	Sec. 34, Martin Twp., Crawford County	Comp.	756
Ohio Oil Co., Robinson	Sec. 21-22, Martin Twp., Crawford County	Comp.	833

ILLINOIS (Continued)

Company and Plant Address—	Field Location—	Type of Plant	Daily Capacity Gallons
Ohio Oil Co., Robinson	Sec. 19, Oblong Twp., Crawford County	Comp.	405
Ohio Oil Co., Robinson	Sec. 9, Oblong Twp., Crawford County	Comp.	242
Ohio Oil Co., Robinson	Sec. 7, Oblong Twp., Crawford County	Comp.	310
Ohio Oil Co., Robinson	Sec. 8, Oblong Twp., Crawford County	Comp.	342
Ohio Oil Co., Robinson	Sec. 29, Oblong Twp., Crawford County	Comp.	*238
Ohio Oil Co., Robinson	Sec. 35, Oblong Twp., Crawford County	Comp.	310
Ohio Oil Co., Robinson	Sec. 18, Oblong Twp., Crawford County	Comp.	200
Ohio Oil Co., Robinson	Sec. 32, Oblong Twp., Crawford County	Comp.	1,130
Ohio Oil Co., Robinson	Sec. 31-32, Prairie Twp., Crawford County	Comp.	243
Ohio Oil Co., Robinson	Sec. 18, Robinson Twp., Crawford County	Comp.	472
Phelan, M., Robinson	Crawford County	Comp.	100
Shoreman & Shoreman, Oil City, Pa.	Crawford County	Comp.	50
Snowden & McSweeney, New York, N. Y.	Bridgeport (3)	Comp.	1,800
Southern Oil Co., Pittsburgh, Pa.	Casey	Comp.	135
Splane, W. W., Oil City, Pa.	Robinson	Comp.	300
Stranahan & Cheuvront, Oblong	W. A. Curtis farm	Comp.	50
Toomey, J. D. Robinson	Allendale	Comp.	100
Toomey, J. D., Robinson	Robinson	Comp.	60
Vacuum Gasoline Co., Lawrenceville	Lawrence County	Comp.	3,000
Vincennes Oil & Gas Co., Vincennes, Ind.	Lawrence County	Comp.	6,000
Warner-Caldwell Oil Co., Titusville, Pa.	Sec. 34-6n-13w	Comp.	150
Wiser Oil Co., Sistersville, W. Va.	Robinson	Comp.	150
Total			51,215

*Shut down.

KANSAS

Amerada Petroleum Corp., Keighley	Sec. 27-27s-7e	Absp.	7,500
Barco Gasoline Co., Peru	Peru	Comp.	1,000
Empire Gasoline Co., Arkansas City	Sec. 13-34-3e	Absp.	10,000
Empire Gasoline Co., Caney	Sec. 13-35-13e	Absp.	10,000
Empire Gasoline Co., Teter	Sec. 16-23-9e	Absp.	6,000
Empire Gasoline Co., Thrall	Sec. 29-23-10e	Comp.	8,000
Empire Gasoline Co., Seeley	Sec. 8-23-11e	Absp.	6,000
Empire Gasoline Co., Sallyards	Sec. 9-26-8e	Absp.	5,000
Empire Gasoline Co., Green	Sec. 2-23-9e	Absp.	2,500
Empire Gasoline Co., Madison	Sec. 14-22-11e	Comp.	2,800
Empire Gasoline Co., Wellington	Sec. 31-32-1e	Absp.	8,000
Hull, J. A., & Co., Tulsa, Okla.	Sec. 15-32-4	Comp.	1,000
Hull, J. A., & Co., Tulsa, Okla.	Sec. 24-32-4	Absp.	5,000
Kansas Gasoline Co., Tulsa, Okla.	Sec. 24-32-4	Absp.	5,000
Manhattan Oil Co., Madison	SW SE Sec. 12-22s-11e	Comp.	6,200
Manhattan Oil Co., Eureka	SE Sec. 10-23s-9e	Absp.	6,800
Marland Oil Co.-Barnsdall Oil Co., Winfield	SW Sec. 20-33s-3e	C-A	8,200
Pep Gasoline Co., Sedan	Sec. 31-33-12	Comp.	1,800
Roxana Petroleum Corp., South Udall	Sec. 25-31-2e	Absp.	5,000
Sinclair Oil & Gas Co., Kembro	Sec. 20-22s-10e	Comp.	15,000
Texas Company, The, O'Brien Switch	Sec. 31-30-6	Absp.	4,673
Texas Company, The, Gordon	Sec. 28-26-5	Absp.	2,700
Tidal Refining Co., Douglas	Sec. 24-29s-5e	Absp.	10,000
Washington Development Co., The, Wellington	Sumner County	Absp.	15,000
Total			155,173

KENTUCKY

Central Kentucky Natural Gas Co., Chambers Station	Chambers Station	Absp.	1,000
Coast Oil Co., Monticello	Monticello	Comp.	200
Cumberland Gasoline Corp., Cleveland, Ohio	Fixer	Comp.	5,000
Daugherty, C. E., & Co., Owensboro	Monticello	Comp.	150
Kentucky Pipe Line Co., Louisville	Winchester	Absp.	2,200
Porter & Bain, Monticello	Monticello (5)	Comp.	400
Superior Oil Corp., Lexington	Torrent	Absp.	1,000
Superior Oil Corp., Lexington	Ravenna	Absp.	500
Swiss Oil Corp., Lexington	Fixer	Comp.	1,500
United Fuel Oil Co., Ashland	Irvine	Comp.	1,000
Viking Gasoline Corp., Charleston, W. Va.	Means	Absp.	1,100
Virginian Gasoline & Oil Co., Charleston, W. Va.	Boyd County	Absp.	19,000
Virginian Gasoline & Oil Co., Charleston, W. Va.	Martin County	Absp.	5,000
Wood Oil Co., Monticello	Monticello	Comp.	300
Total			38,350

LOUISIANA

Arkansas Fuel Oil Co., Pittsburgh, Pa.	Sec. 18-21n-7w	Comp.	5,000
Carson Carbon Co., Cincinnati, Ohio	Sec. 7-19-6, Morehouse	Absp.	1,500
Coltexo Corp., Fairbanks	Sec. 37-19-4e	Absp.	8,000
Columbian Gasoline Corp., Monroe	Fairbanks	Absp.	6,000
Columbian Gasoline Corp., Monroe	Fowler	Absp.	16,000
Columbian Gasoline Corp., Monroe	Greenwood	Absp.	6,000
Columbian Gasoline Corp., Monroe	Perryville	Absp.	4,000
Columbian Gasoline Corp., Monroe	Spyker	Absp.	8,000
Columbian Gasoline Corp., Monroe	Swartz	Absp.	16,000
Columbian Gasoline Corp., Monroe	Homer	C-A	7,500
De Soto Gasoline Co., Houston	Sec. 36-13-12	Comp.	1,000
Dixie Oil Co., Inc., Shreveport	Sec. 13-21n-15w	Newton	10,000
Gilliland Oil Co., Tulsa, Okla.	Homer	Comp.	8,000
Gilliland Oil Co., Tulsa, Okla.	Haynesville	Absp.	10,000
Gulf Refining Co., Homer	Sec. 15-21n-8w	Absp.	10,000
Gulf Refining Co., Mooringsport	Sec. 19-20n-15w	Comp.	8,000
Herkness, J. S., Co., Bastrop	Macarco	Absp.	800
Huber, J. M., Co. of Louisiana, Inc., Swartz	Sec. 5-19n-5e	Absp.	4,000
Louisiana Gas Co., Cedar Grove	Cedar Grove	Absp.	10,000
Louisiana Oil Refining Corp., Shreveport	Bossier City	Comp.	20,000
Louisiana Gas Products Co., Box 669, Monroe	Dew Drop Spur	Absp.	1,000
Magnolia Petroleum Co., Bull Bayou	Sec. 12-12n-11w	Comp.	1,254
May Oil Co., Oil City	Sec. 1-20n-16w	Comp.	100
Monroe-Louisiana Carbon Co., Hancock	Sec. 33-19n-5e	Charc.	2,000
National Gas & Carbon Co., Monroe	Carbondale	Absp.	200
Natural Gas Products Co., Gilliam	Sec. 23-21n-15w	Absp.	3,500
Ohio Oil Co., Haynesville	Sec. 21-23n-8w	Absp.	3,100
Ohio Oil Co., Haynesville	Sec. 24-23n-8w	Absp.	2,900
Ohio Oil Co., Haynesville	Sec. 15-23n-8w	Absp.	3,000
Ohio Oil Co., Cotton Valley	Sec. 23-23n-10w	Absp.	2,800
Ohio Oil Co., Gilliam	Sec. 7-21n-14w	Absp.	*1,200
Pala Oil Co., Mooringsport	Sec. 20-20-16	Comp.	200
Palmer Corp., The, Shreveport	Swartz	Absp.	10,000
Palmer Corp., The, Shreveport	Cotton Valley	Absp.	10,000
Palmer Corp., The, Shreveport	Cedar Grove	Absp.	10,000
Phillips Petroleum Co., Homer	Sec. 19-21-7	Comp.	5,000
Reserve Natural Gas Co., Shreveport	Shreveport	Absp.	6,000
Smitherman & McDonald, Haynesville	Sec. 7-23n-8w	Comp.	400
Standard Oil Co. of Louisiana, Lewis	Sec. 27-21n-16w	C-A	7,000
Standard Oil Co. of Louisiana, Homer	Sec. 19-21n-7w	C-A	8,000
Texas Company, The, Brown	Sec. 19-20n-15w	Comp.	778
Texas Company, The, Ellerbe	Sec. 5-21n-6w	Comp.	1,076
Texas Company, The, Russel	Sec. 3-20n-16w	Comp.	2,485
Texas Company, The, Saunders	Sec. 34-13n-12w	Comp.	1,845
Texas-Louisiana Producing & Carbon Co., Carbondale	Sec. 7-19n-6e	Absp.	6,000
United Carbon Co., Monroe	Cargas	Absp.	3,000
United Carbon Co., Monroe	Lamkin	Absp.	3,000
United Carbon Co., Monroe	Central	Absp.	*
United Carbon Co., Monroe	Standard	Absp.	5,000
United Carbon Co., Monroe	Consolidated	Absp.	4,000
United Carbon Co., Monroe	Humphreys	Charc.	3,000
U. S. Carbon Co., Bastrop	Sec. 3-20-5e	Absp.	2,500
United Gas Products Co., Swartz	Sec. 32-19n-5e	Absp.	6,000
Wahl, A. P., Evans City, Pa.	Forward Twp.	Comp.	250
Total			276,388

*Shut down.

NEW MEXICO

Phillips Petroleum Co., Artesia	Sec. 16-18-28	Absp.	6,000

NEW YORK

Empire Gas & Fuel Co., Wellsville	Robinson farm, Andover	Absp.	500
Power Gasoline Co., Bradford, Pa.	Livingston	Comp.	300
Producers Oil Corp., Olean	Allegany County	Absp.	850

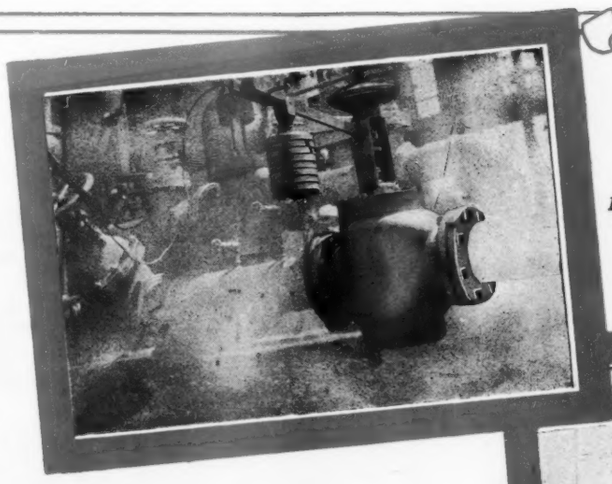
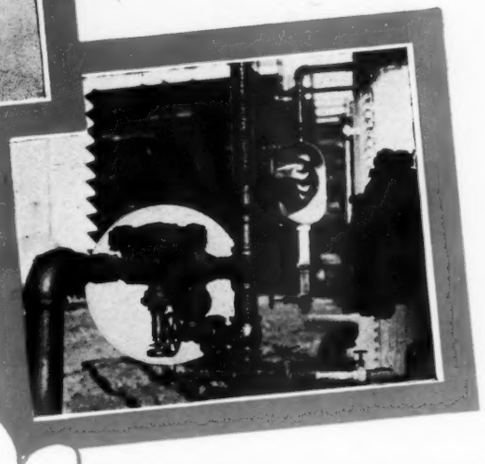


Illustration above shows Type 14 maintaining 40 pounds gas pressure on absorbers at Hull plant.

Illustration below shows Type 295 Fisher Back Pressure Control Valve, operating on stabilizers in Natural Gasoline plant, Oklahoma.



BACK PRESSURE AND RELIEF VALVES

Back pressure can be easily maintained by using the Fisher Type 14 Automatic Relief Valve.

This valve is recommended for use on any installation where the desired pressure must be maintained exactly and any excess pressure relieved.

The valve is absolutely automatic, opening at the fixed working pressure and closing promptly after relieving the excess pressure above the fixed working point, so that except within the narrowest working limits, the pressure never exceeds the point for which the valve is set.

The reliability of this Automatic Relief Valve is a source of great satisfaction to plant operators.

The control of pressures may safely be left up to these varied types of Fisher Back Pressure or Relief Valves.

Each type is designed and built to meet certain conditions, and among these types is one that will serve your purpose. The types are 295—14—9—9F.

FISHER
TRADE MARK REGISTERED

THE FISHER GOVERNOR COMPANY

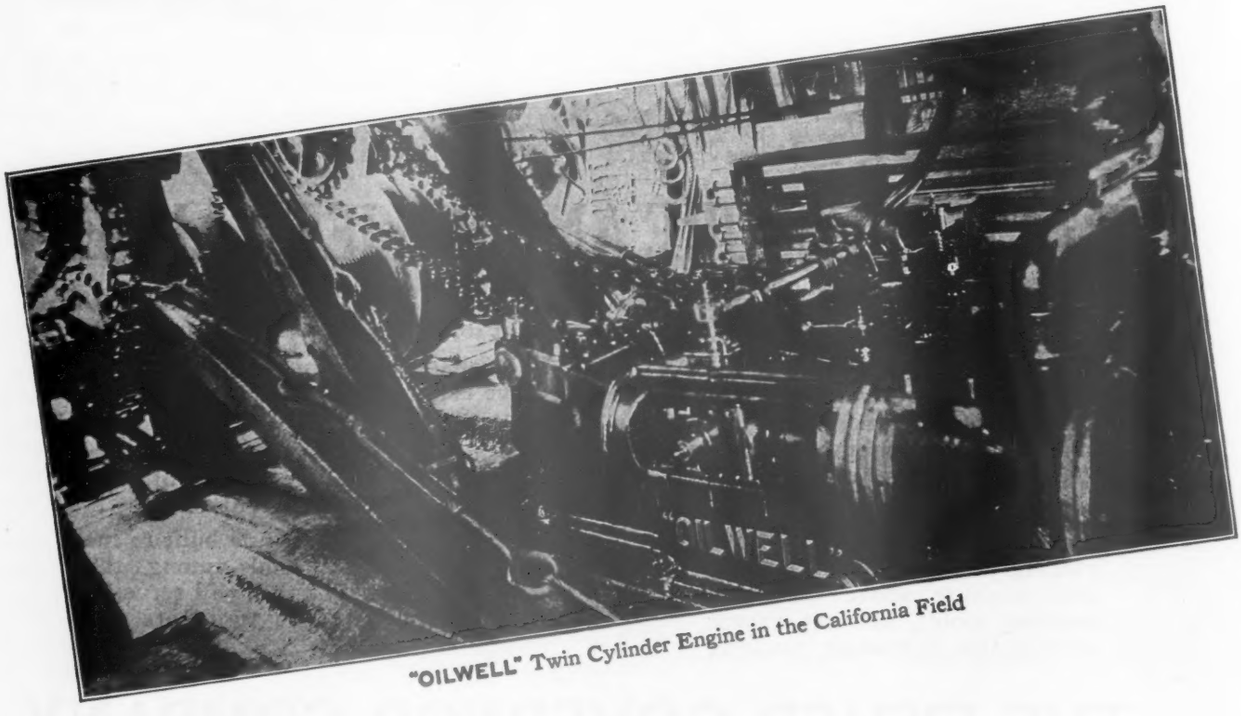
394 FISHER BUILDING

MARSHALLTOWN, IOWA, U. S. A.

"OILWELL" ESTD. 1862. TRADE MARK. (REGISTERED)

"OILWELL" TWIN C

"OILWELL" Twin Cylinder Engine in the Oklahoma Field



"OILWELL" Twin Cylinder Engine in the California Field

"OILWELL" ESTD. 1862. TRADE MARK. (REGISTERED)

OIL WELL SU

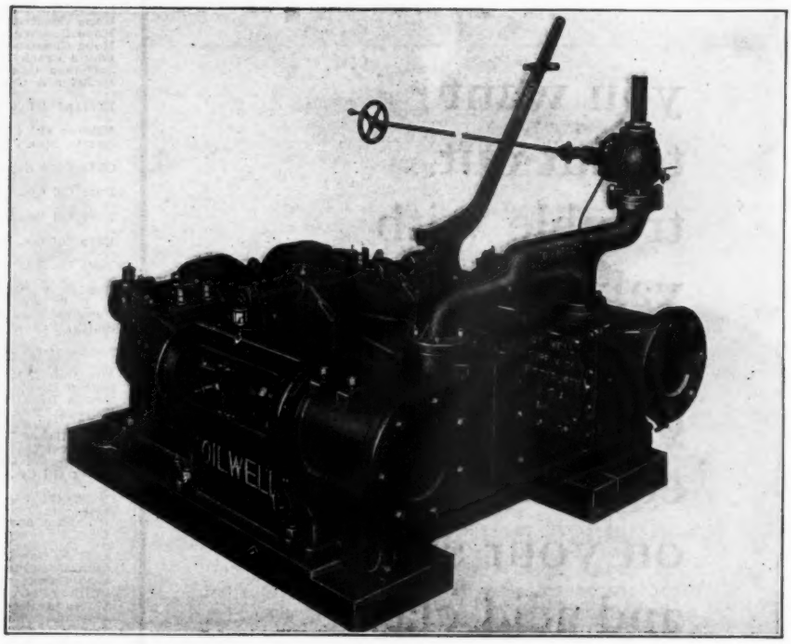
WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIP

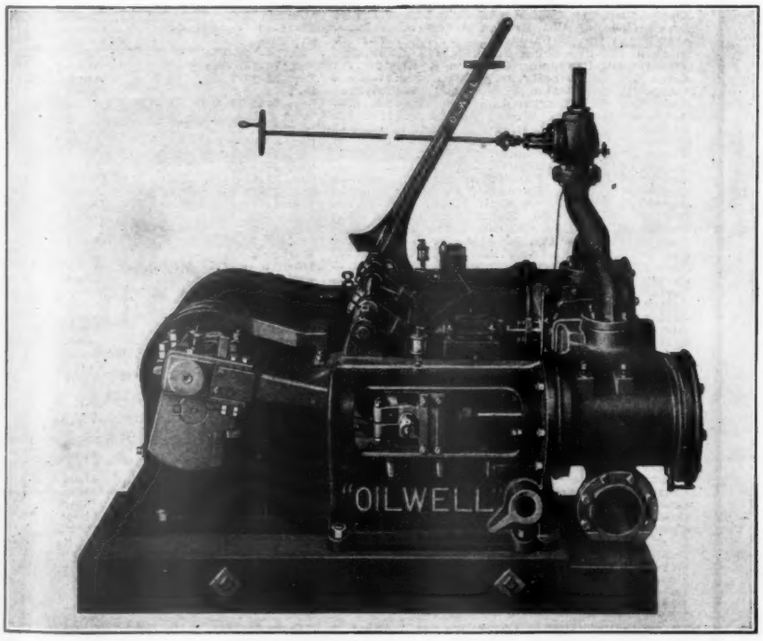
N CYLINDER ENGINES

"OILWELL" ESTD. 1862 TRADE MARK (REGISTERED)

"OILWELL" Twin Cylinder Engines have been designed with the same care and attention to detail which has been responsible for the success of "OILWELL" Single Cylinder Engines for so many years.

For Rotary Drilling, the Twin Engine has several advantages over the single cylinder type in that the Twin Engine cannot stop on center, and the absence of flywheel momentum facilitates quick starting, stopping or reversing. It is also more sensitive, which is a great asset when making up pipe and, with it, a slower, positive motion can be obtained.





On "OILWELL" Twin Engines the bed plate, crosshead guides, and bearing boxes for crank shaft are all cast in one piece, which reduces the number of assembled parts and insures permanent alignment of bed and bed plate.

Each engine is given a running test before leaving the factory, and when shipped, is ready to perform the hard service for which it is designed.

Force feed oil pumps are furnished as standard equipment, replacing sight feed lubricators as furnished in the past. Standard equipment also includes oil and grease cups for lubricating all working parts. If desired, force feed lubrication for all working parts can also be furnished.

For Further Information Inquire at Any of Our 100 Branches

SUPPLY CO.

"OILWELL" ESTD. 1862 TRADE MARK (REGISTERED)

IELD EQUIPMENT BRANCH STORES IN ALL OIL FIELDS

IF

you want
to cut out
trouble with
valves, pumps,
piping and
other
equipment
on your sludge
and acid clay
lines, you
can do so
by using
Duriron
acid and
abrasion
proof equipment.
Duriron
is produced
only by
The Duriron
Company
Dayton
Ohio

OHIO

Company and Plant Address—	Field Location—	Type of Plant	Daily Capacity Gallons
American Oil Dev. Co. of W. Va., Pittsburgh, Pa.	Stewart	Comp.	352
American Oil Dev. Co. of W. Va., Pittsburgh, Pa.	Bradfield	Comp.	160
Atha Oil Co., Zanesville	Melick Bros. farm, Madison Twp., Perry County	Comp.	3
Ben Oil Co., Homeworth	Emanuel Wyss farm, Knox Twp., Columbiana County	Comp.	50
Braden, Spear & Depew Brothers, Marietta	Steubenville	Comp.	300
Brewer Gasoline Co., Steubenville	Steubenville	Comp.	100
East Ohio Gas Co., Berea	Cuyahoga County	Charc.	1,500
East Ohio Producing & Refining Co., Doylestown	Wayne County	Charc.	6,000
First National Bank, Marietta	Sec. 19, Lawrence Twp, Washington County	Comp.	200
Heneghan & Hanlon, Inc., Toronto	M. & P. R. Smith farm	Comp.	150
Hope Construction & Ref. Co., Pittsburgh, Pa.	Lohr	Comp.	300
Hope Construction & Ref. Co., Pittsburgh, Pa.	Ludlow	Absp.	1,200
Hope Construction & Ref. Co., Pittsburgh, Pa.	Cline	Comp.	200
Island Creek Oil Co., Toronto	Erin Miles farm	Comp.	130
Jefferson Gasoline Co., Smithfield	Warren Twp., Jefferson Co.	Comp.	100
McBrier & Corbett, Coroapolis, Pa.	A. L. Stoffer farm, Knox Twp., Columbiana Co.	Comp.	50
Midland Oil Co., Brownsville	F. L. Orr farm, Bowling Green Twp., Licking Co.	Comp.	3
Mildren Oil Co., Marietta	Rees Run	Absp.	100
Norris, Mrs. Jennie, Parkersburg, W. Va.	Sec. 11, Newport Twp. Washington County	Comp.	100
Ohio Fuel Supply Co., Columbus	Sec. 28, Stock Twp., Noble County	Absp.	1,400
Pure Oil Co., Sistersville, W. Va.	Carson farm, Grandview Twp., Washington Co.	Comp.	150
Pure Oil Co., Sistersville, W. Va.	Hutchison farm, Jackson Twp., Monroe County	Comp.	150
Pure Oil Co., Sistersville, W. Va.	Ramsey farm, Independence Twp., Washington Co.	Comp.	100
Pure Oil Co., Sistersville, W. Va.	Eckart farm, Independence Twp., Washington Co.	Comp.	125
Reader, William, estate, Marietta	Sec. 19, Laurence Twp. Washington County	Comp.	200
Reno Oil Co., Sistersville, W. Va.	Monroe County	Comp.	400
Smith, Frank W., Marietta	Sec. 6, Newport Twp., Washington County	Comp.	10
Southern Oil Co., Sycamore Valley	Sec. 35, Bethel Twp., Monroe County	Comp.	30
Stratton, C. M., Toronto	C. M. Stratton farm	Comp.	*
Sutton Brothers, Sistersville, W. Va.	Jackson (2)	Absp.	200
Sutton Brothers, Sistersville, W. Va.	Perry	Absp.	100
Sylvania Producing Co., Woodsfield	Sec. 27, Bethel Twp. Monroe County	Comp.	200
Tope, Henry E., et al, Toronto	Jos. W. Edminston farm	Comp.	
Tyler Oil Co., Sistersville, W. Va.	Monroe County	Comp.	100
Washington Development Co., Mount Vernon	Mt. Vernon	Absp.	1,000
Wiser Oil Co., Sistersville, W. Va.	Lodi	Comp.	150
Total			15,313

*Shut down.

OKLAHOMA

A. C. F. Gasoline Co., Box 1561, Tulsa	Sec. 4-18-7	Comp.	750
Akin Gasoline Co., Box 1403, Tulsa	Sec. 9-26-13	Absp.	600
Akin Gasoline Co., Box 1403, Tulsa	Sec. 3-16-13	Comp.	600
Altitude Petroleum Co., Tulsa Trust Bldg., Tulsa	Oilton	Absp.	*3,000
Amerada Petroleum Corp., Ardmore	Sec. 20-5s-1e	Absp.	3,500
Amerada Petroleum Corp., Tonkawa	Sec. 34-25n-1w	Absp.	12,000
Amerada Petroleum Corp., Yeager	Sec. 18-8n-10e	Absp.	3,000
Amerada Petroleum Corp., Healdton	Sec. 31-2s-2w	Absp.	15,000
Amerada Petroleum Corp., Okmulgee	Sec. 13-12n-11e	Absp.	7,500
Amerada Petroleum Corp., Wewoka	Sec. 5-7n-8e	Absp.	7,500
Amerada Petroleum Corp., Earlsboro	Sec. 16-9n-5e	Absp.	22,500
Amerada Petroleum Corp., Seminole	Sec. 15-8n-6e	Absp.	†15,000
Amerada Petroleum Corp., Seminole	Sec. 23-9n-6e	Comp.	5,000
Amity Gasoline Co., Alluwe	Alluwe	Comp.	4,500
Amity Gasoline Co., Dewey	Dewey	Comp.	1,500
Amity Gasoline Co., Mounds	Mounds	Comp.	350
Arrow Gasoline Co., Broken Arrow	25-18-14	Comp.	1,500
Arthur Oil Co., Sapulpa	Sapulpa	Comp.	1,000
Atlantic Oil Producing Co., Box 426, Okemah	Sec. 36-12n-10e	Absp.	1,800
Atlantic Oil Producing Co., Box 8, Bristow	Sec. 16-14n-10e	Absp.	3,000
Aztec Oil Co., Ingalls	Sec. 22-19-4	Absp.	*5,000
Aztec Oil Co., Jenks	Sec. 35-18-12	Comp.	1,500
Aztec Oil Co., Henryetta	Sec. 6-11-12	Absp.	2,500
Barco Gasoline Co., Wirt	Wirt	Comp.	2,000
Barnsdall Oil Co., R. R. No. 8, Tulsa	Sec. 5-20-12	Absp.	2,500
Barnsdall Oil Co., Osage	Sec. 20-21-9	Absp.	2,000
Barnsdall Oil Co., Avant	Sec. 18-23-12	Absp.	2,400
Barnsdall Oil Co., Beggs	Sec. 6-14-12	Absp.	6,000
Barnsdall Oil Co., Phillipsville	Sec. 23-14-11	Comp.	2,800
Barnsdall Oil Co., Barnsdall	Sec. 29-25-11	Absp.	3,000
Barnsdall Gas Co., Okemah	Sec. 15-10-9	Comp.	†1,500
Boynton Gasoline Co., Boynton	Boynton	Comp.	500
Bradstreed, J. G., & Co., Muskogee	Muskogee	Comp.	300
Burgess Gasoline Co., Nowata	Collinsville	Absp.	1,000
Carter Oil Co., Burbank	Burbank	Absp.	16,000
Carter Oil Co., Hewitt	Hewitt	Absp.	10,000
Carter Oil Co., Oilton	Oilton	Absp.	6,000
Carter Oil Co., Cromwell	Cromwell	Absp.	17,000
Carter Oil Co., Cromwell	Cromwell	Absp.	32,000
Carter Oil Co., Seminole	Seminole	Absp.	15,000
Carter Oil Co., Seminole	Seminole	Absp.	60,000
Carter Oil Co., Seminole	Seminole	Absp.	50,000
Chase Gasoline Co., Muskogee	Muskogee	Comp.	1,000
Chase Gasoline Co., Muskogee	Muskogee	Comp.	2,000
Chesney, Chas., Gasoline Co., Box 857, Okmulgee	Okmulgee	Absp.	500
Chestnut & Smith Corp.			3,000
Chestnut & Smith Corp. (2)	Kiefer	A-C	20,500
Chestnut & Smith Corp.	Morris	A-C	3,500
Comar Gasoline Co. (Mariand and Roxana), Tonkawa	Sec. 10-24n-1w	Absp.	16,000
Comar Gasoline Co., Tonkawa	Sec. 2-24n-1w	Absp.	24,000
Comar Gasoline Co., Tonkawa	Sec. 3-25n-1w	Absp.	3,000
Comar Gasoline Co., Tonkawa	Sec. 28-25n-1w	Absp.	8,000
Crosbie & Gillespie, Kiefer	Kiefer	Comp.	7,500
Crosbie & Gillespie, Stonebluff	Stonebluff	Comp.	600
Cushing Refining & Gasoline Co., Blackwell	Blackwell	Absp.	10,000
Cushing Refining & Gasoline Co., Ripley	Ripley	Absp.	8,000
Denver Producing & Refining Co., Okmulgee	Okmulgee	Absp.	1,000
DeSoto Gasoline Co., Muskogee	Sec. 5-14-8	Comp.	500
Devonian Oil Co., Chickasha	Sec. 32-7n-6w	Absp.	2,000
Devonian Oil Co., Kellyville	Sec. 22-17n-10e	Absp.	7,500
Devonian Oil Co., Tulsa	Sec. 22-10n-12e	Absp.	3,000
Devonian Oil Co., Stroud	Sec. 34-15n-6e	Absp.	*5,000
Dewey Portland Cement Co., Dewey	Dewey	A-C	2,000
Diamond Refining Co., Delaware	Sec. 29-27-16	Comp.	3,000
Diamond Refining Co., Ochelata	Ochelata	Absp.	800
Diamond Refining Co., Jenks	Jenks	Comp.	600
Eagle Gasoline Co., Kiefer	Kiefer	Comp.	3,000
Eagle-Picher Lead Co., Henryetta	Sec. 6-11-13	Absp.	5,000
Elm Oil Co., Tulsa	Sec. 13-14-14	Comp.	300
Empire Gasoline Co., Tallent	Sec. 35-25-10e	Absp.	10,000
Empire Gasoline Co., Okemah	Sec. 16-11-11e	Absp.	6,500
Empire Gasoline Co., Burbank	Sec. 12-27-5e	A-C	8,000
Empire Gasoline Co., Seminole	Sec. 24-9-6e	Absp.	30,000
Empire Gasoline Co., Seminole	Sec. 24-9-6e	Absp.	20,000
Empire Gasoline Co., Seminole	Sec. 14-8-6e	A-C	†60,000
Enfisco Oil Corp., Court Arcade Bldg., Tulsa	Sec. 17-17-13	Comp.	4,000
Enfisco Oil Corp., Court Arcade Bldg., Tulsa	20-17-13	Comp.	500
Foster & Davis, Bartlesville	Osage	Comp.	900
Foster, Dean E., 304 New Wright Bldg., Tulsa	Sec. 27-27-3w	Absp.	15,000
Foster Petroleum Corp., Bartlesville	Sec. 13-21-8	Absp.	2,500
Four Gasoline Co., Box 1561, Tulsa	Sec. 22-17-13	Comp.	500
Franchot, D. W., & Co., Box 1561, Tulsa	Sec. 17-17-12	Comp.	500
Gilliland Oil Co., Shamrock	Shamrock	Absp.	15,000
Gilliland Oil Co., Barnsdall	Barnsdall	Absp.	5,000
Gilmore, Forest E., Co., Mannford	Sec. 14-19-8	Absp.	4,000
Gilmore, Forest E., Co., Kellyville	Sec. 1-17n-10e	Absp.	†10,000
Gilmore, Forest E., Co., Wetumka	Sec. 21-9n-10e	Absp.	†8,000
Glenn Gas Co., Glenn Pool	Glenn Pool	Comp.	2,000
Glomar Gasoline Co., Jennings	Jennings	Absp.	2,500

Griscom-Russell

Heat Transfer Apparatus for Refineries

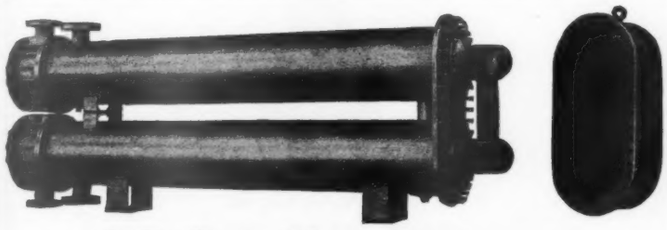
G-R Sectional Condenser

for condensing gasoline and other oil vapors. Can also be used as a knockout box or fractionating tower control section with particularly close control of the end points. Sections can be added or removed to meet varying capacity requirements. Readily transported and re-assembled to meet changing plant conditions. Provisions for easy inspection and draining.

Note how the Unit System permits increased capacity or greater cooling effect by installation of additional sections..

G-R Bentube Section

An atmospheric cooler that sheds scale automatically on change in temperature when steam or vapor is admitted to tubes. Interchangeable sections, flexible capacity, and high salvage value. Provisions are made for expansion, drainage, and easy cleaning. Has small tubes for high rate of heat transfer.

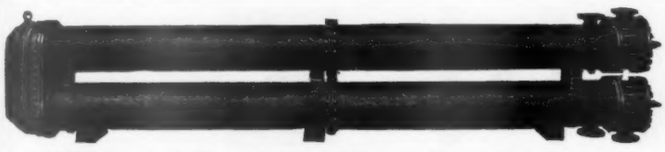


G-R Twin Heat Exchanger

for the efficient interchange of heat between crude oil feed stock and still bottoms, cold water and hot oil, feed stock and hot still vapors, etc. Only a little more than half the length of a single unit designed for the same duty.

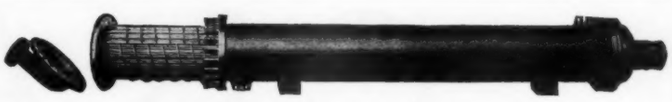
G-R Jacket Water Cooler

uses any source of raw water to cool the jacket water from oil and gas engines and compressors. Eliminates the possibility of scale formation in the engine jacket. The famous Multiwhirl Cooler—thousands in operation in every liquid cooling service.



Mineral Seal Oil Heat Exchanger

A compact, twin exchanger with strict counter-current flow to promote maximum rate of heat interchange. All oil connections at the same end to simplify piping.



G-R Vaneflo Gas Cooler

for cooling casing head or natural gas. Can be used as inter-, after-, or pre-cooler in absorption and compression type natural gasoline plants. Has low pressure loss and exceptional efficiency.

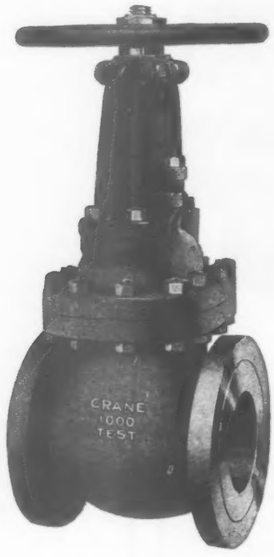
Send for Bulletins

THE GRISCOM-RUSSELL COMPANY
285 MADISON AVENUE, NEW YORK
Branches in All O.l Centers

Crane ferrosteel and cast iron gate valves for gas service

Wedge Gate Valve No. 460

Standard wedge gate valve. Iron body, brass trimmings. Non-rising stem. Gas working pressures, 16-inch and smaller, 175 lbs.; 18-inch and larger, 120 lbs. For steam, water, and air working pressures, see Catalogue 51, page 150.



Gate Valve No. 343-E

One of a complete line of iron and ferrosteel double disc gate valves, covering needs of natural and artificial gas, and oil industries; for gas, cold oil, and water lines and refinery service. Tested for 1000 lbs., this ferrosteel valve is recommended for 500 lbs. working pressures. Discs are accurately guided into the body. Mountings are Crane special brass. Inside wedging mechanism is brass-to-iron. All sliding parts are machined smooth to reduce friction. Valves of this type are supplied with either screwed or flanged ends, in O. S. & Y. pattern, or N. R. S. pattern. Pages 10 and 11, Circular 178.

Wedge Gate Valve No. 465½

Iron body. Brass trimmings. Outside screw and yoke. Widely used in gas or oil service lines. Gas working pressures, 16-inch and smaller, 175 lbs.; 18-inch and larger, 120 lbs. See Catalogue 51, page 151.

Gate Valve No. 480

Standard, double disc. Iron body, brass mounted. 175 lbs. working pressure for gas, cold oil, water, or air lines. Screwed ends. Also supplied in flanged type. See pages 14 and 15, Circular 178.

Gate Valve No. 483

Standard, double disc. Iron body, brass mounted. Brass stems. Outside screw and yoke. Inside wedging mechanism, brass-to-iron. All sliding parts machined smooth to reduce friction. See pages 14 and 15, Circular 178.

Learn more about these materials backed by 72 YEARS OF EXPERIENCE. Write for complete set of Z sheets, and a catalogue covering the particular division of the gas industry in which you are interested.

CRANE

Address all inquiries to Crane Co., Chicago

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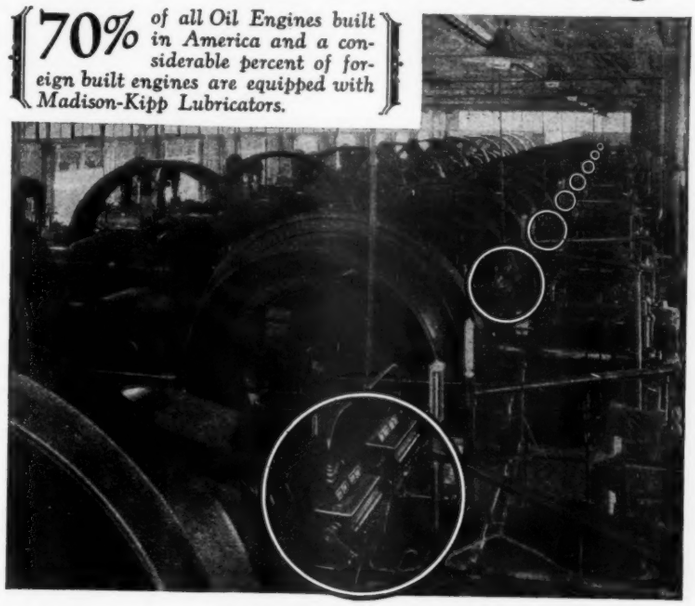
OKLAHOMA (Continued)

Company and Plant Address—	Field Location—	Tpye of Plant	Daily Capacity Gallons
Glomar Gasoline Co., Mannford	Mannford	Comp.	*250
Glomar Gasoline Co., Oakhurst	Oakhurst	Absp.	1,800
Grimes Gasoline Co., Haskell	Sec. 12-14-15	Absp.	1,500
Grimes Gasoline Co., Keystone	Sec. 6-19-10	Absp.	1,500
Grimes Gasoline Co., Okemah	Sec. 2-10-9	Absp.	2,000
Grimes Gasoline Co., Okemah	Sec. 35-10-9	Absp.	5,000
Grimes & Gillespie, Tulsa	Sperry	Absp.	1,000
Gypsy Oil Co., Kiefer	Sec. 16-17-12	Comp.	48,100
Gypsy Oil Co., Jenks	Sec. 20-18-13	Comp.	2,300
Gypsy Oil Co., Cleveland	Sec. 34-21-8	Comp.	4,500
Gypsy Oil Co., Drumright	Sec. 5-17-7	Comp.	10,200
Gypsy Oil Co., Shamrock	Sec. 10-16-7	Comp.	9,200
Gypsy Oil Co., Cleveland	Sec. 1-21-7	Comp.	8,100
Gypsy Oil Co., Shidler	Sec. 32-27-6	Absp.	10,600
Gypsy Oil Co., Three Sands	Sec. 2-24-1w	Absp.	19,700
Gypsy Oil Co., Shidler	Sec. 24-27-5e	Absp.	33,800
Gypsy Oil Co., Bristow	Sec. 3-14n-8e	Absp.	4,900
Gypsy Oil Co., Davenport	Sec. 11-14n-5e	Absp.	5,000
Gypsy Oil Co., Earlsboro	Sec. 16-9-5e	Absp.	37,000
Hales & Cassidy, Cushing	Cushing	Absp.	2,000
Harland Oil Co., Wolco	Sec. 25-24-11	Absp.	3,000
Harland Oil Co., Barnsdall	Sec. 20-25-11	Absp.	3,000
Harlis Oil & Gas Co., Avant	Sec. 18-23-12	Comp.	1,500
Henderson Co., Nowata	Sec. 17-16-15	Absp.	10,000
Highway Oil Refining Co., Lynch Bldg., Tulsa	Sec. 20-19n-12e	Comp.	500
Highway Oil Refining Co., Lynch Bldg., Tulsa	Sec. 21-16n-15e	Comp.	600
Hilditch, John, Tulsa	Hallett	Absp.	3,000
Independent Oil & Gas Co., Seminole	Sec. 26-9-6	Absp.	25,000
Invader 50 Well Syndicate, Muskogee	Sec. 33-14-17	Comp.	500
Junior Refining Co., Okmulgee	6-13-12	Absp.	1,800
Lane Gasoline Co., Nowata	Nowata	Comp.	500
Lane Gasoline Co., Nowata	Okemah	Absp.	800
Lone Star Gas Co., Hollis	Hollis	Absp.	†10,000
Magnolia Petroleum Co., Cushing	9-17n-7e	Comp.	2,436
Magnolia Petroleum Co., Cushing	8 and 9-18n-7e	Comp.	2,430
Magnolia Petroleum Co., Cushing	7-18n-7e	Comp.	3,000
Magnolia Petroleum Co., Cushing	2 and 3-18n-7e	Comp.	710
Magnolia Petroleum Co., Cushing	3 and 4-16n-7e	A-C	2,270
Magnolia Petroleum Co., Cushing	27-17n-7e	Comp.	925
Magnolia Petroleum Co., Davenport	29-18n-5e	Comp.	460
Magnolia Petroleum Co., Davenport	34-15n-5e	A-C	4,660
Magnolia Petroleum Co., Duncan	3-14n-5e	Absp.	1,450
Magnolia Petroleum Co., Earlsboro	19-15n-8e	A-C	750
Magnolia Petroleum Co., Fox	26-9n-6e	A-C	3,000
Magnolia Petroleum Co., Graham	33-1s-3w	A-C	350
Magnolia Petroleum Co., Healdton	23-2s-2w	Comp.	4,800
Magnolia Petroleum Co., Healdton	4-14s-3w	Comp.	280
Magnolia Petroleum Co., Healdton	15-14s-3w	Comp.	300
Magnolia Petroleum Co., Morrison	16-14s-2w	Comp.	725
Magnolia Petroleum Co., Okmulgee	5-22-3w	A-C	1,890
Magnolia Petroleum Co., Wewoka	1-11n-13e	Comp.	73
Magnolia Petroleum Co., Wewoka	32-8n-8e	Comp.	1,740
Magnolia Petroleum Co., Yale	5-7n-8e	Comp.	3,580
Magnolia Petroleum Co., Yale	6-19n-6e	Comp.	165
Magnolia Petroleum Co., Yale	17-20n-6e	A-C	2,850
Marland Refining Co., Ponca City	27-19n-4e	Comp.	550
Marland Refining Co., Blackwell	Sec. 33-25n-2e	A-C	18,000
Marland Refining Co., Three Sands	Sec. 1-26n-2w	A-C	4,500
Marland Refining Co., Blackwell	Sec. 15-25n-2w	Absp.	4,200
Marland Refining Co. and Mid-Continent Petroleum Corp., Garber	Sec. 6-26n-1w	Absp.	2,200
Masoneal Gasoline Co., Osage	Sec. 13-22n-4w	A-C	7,000
Masoneal Gasoline Co., Copan	Sec. 23-21-8	A-C	1,800
McMan Oil & Gas Co., Tonkawa	Sec. 33-28-13	Absp.	900
Midco Oil Corp., Box 2085, Tulsa	Three Sands	Absp.	8,000
Midco Oil Corp., Box 2085, Tulsa	Oilton	Comp.	4,000
Midco Oil Corp., Box 2085, Tulsa	Drumright	Comp.	250
Midco Oil Corp., Box 2085, Tulsa	Dewey	Comp.	1,800
Mid-Continent Petroleum Corp., Bethel	Billings	Comp.	1,000
Mid-Continent Petroleum Corp., Covington	Sec. 17-9-8	Absp.	5,000
Mid-Continent Petroleum Corp., Cromwell	Sec. 13-22-4n	Absp.	25,000
Mid-Continent Petroleum Corp., Leanard	Sec. 15-10-8	Absp.	50,000
Mid-Continent Petroleum Corp., Morris	Sec. 28-17-14	Comp.	5,000
Mid-Continent Petroleum Corp., Okmulgee	Sec. 12-13-13	Absp.	5,000
Mid-Continent Petroleum Corp., Shamrock	Sec. 19-13-13	Comp.	3,000
Mid-Continent Petroleum Corp., Stonebluff	Sec. 22-17-7	Absp.	15,000
Mid-Continent Petroleum Corp., Tulsa	Sec. 5-16-15	Comp.	3,000
Mid-Continent Petroleum Corp., Weleetka	Sec. 28-20-12	Absp.	5,000
Mid-Continent Petroleum Corp., Stroud	Sec. 4-9-11	Absp.	6,000
Mid-Kansas Oil & Gas Co., Petroleum Bldg., Tulsa	Sec. 8-15-6	Absp.	6,000
Moon Gasoline Co., Box 267, Bixby	Sec. 15-27n-5e	Absp.	5,000
Moon Gasoline Co., Box 36, Rt. 4, Muskogee	Bixby	Comp.	3,000
M. T. C. Oil & Gas Co. (and Elbucan Oil Co.), Tulsa	Muskogee	Comp.	2,000
National Oil & Development Co., Tulsa	Mehon	A-C	7,000
National Products Co., Cleveland	Bartlesville	Comp.	2,000
National Products Co., Mounds	Cleveland (2)	Absp.	2,000
National Products Co., Terlton	Mounds	Absp.	* 500
National Products Co., Oilton	Terlton	Absp.	1,400
National Products Co., Slick	Oilton (2)	Absp.	2,000
Noble Oil & Gas Co., Quay	Slick	Absp.	2,000
Oil State Gasoline Co., Jenks	Quay	Absp.	1,500
Oil State Gasoline Co., Beggs	Sec. 17-18-13	Comp.	1,500
Oil State Gasoline Co., Yale	Sec. 7-14-12	Comp.	1,200
Oklahoma Gasoline Plants, Inc., Sapulpa	Sec. 13-19-5	A-C	3,000
Okmulgee Producers & Manufacturers Gas Co., Okmulgee	Sec. 18-18n-7e	Absp.	5,500
Orfic Gasoline Co., Cleveland	Sec. 13-12-13	Absp.	500
Orfic Gasoline Co., Jennings	Sec. 18-21-8	Comp.	2,500
Owen Gasoline Co., Barnsdall	Sec. 3-19-7	Absp.	2,500
Owen Gasoline Co., Owen	Sec. 19-24-11	Absp.	3,000
Peppers Gasoline Co., Box 858, Enid	Sec. 29-29-13	Absp.	10,000
Phillips Petroleum Co., DeNoya	Sec. 24-22-4w	Absp.	3,000
Phillips Petroleum Co., Shidler	Sec. 6-24-10	Absp.	44,000
Phillips Petroleum Co., Shidler	Sec. 26-27-5	Absp.	45,000
Phillips Petroleum Co., Shidler	Sec. 16-27-5	Absp.	42,000
Phillips Petroleum Co., Fairfax	Sec. 14-27-5	Comp.	22,000
Phillips Petroleum Co., Bartlesville	Sec. 21-25-6	Comp.	2,000
Phillips Petroleum Co., Pershing	Sec. 12-25-11	Absp.	3,000
Phillips Petroleum Co., Stroud	Sec. 6-24-10	Absp.	10,000
Phillips Petroleum Co., Norfolk	Sec. 12-14-6	Absp.	4,000
Phillips Petroleum Co., Beggs	Sec. 1-18-5	Absp.	3,000
Phillips Petroleum Co., Bryant	Sec. 11-15-12	Absp.	5,000
Phillips Petroleum Co., Wewoka	Sec. 24-11-11	Absp.	12,000
Phillips Petroleum Co., Wetumka	Sec. 33-8-8	Absp.	31,000
Phillips Petroleum Co., Wetumka	Sec. 3-9-9	Absp.	32,000
Powers, M. F., Depew	Sec. 33-11-8	Absp.	26,000
Powers & Quinlan, Rt. 2, Box 22, Beggs	Depew	Absp.	4,000
Powers & Quinlan, Rt. 2, Box 22, Beggs	Beggs	Comp.	2,000
Pure Oil Co., Drumright	Beggs	Comp.	2,000
Pure Oil Co., Drumright	Sec. 32-18-7	Comp.	8,000
Pure Oil Co., Healdton	Sec. 32-19-7	Comp.	5,000
Pure Oil Co., Depew	Sec. 11-4-3	Comp.	1,500
Pure Oil Co., Okmulgee	Sec. 5-15-8	Comp.	8,000
Pure Oil Co., Seminole	Sec. 7-13-13	Comp.	1,000
Pure Oil Co., Seminole	Sec. 26-9-6	A-C	20,000
Romarti Gasoline Co., Burbank	Sec. 14-8-6	A-C	†20,000
Rotary Gasoline Co., Tulsa	Sec. 31-27n-6e	Absp.	12,000
Roxana Petroleum Corp., Yale	Sec. 11-21n-12e	Comp.	1,200
Roxana Petroleum Corp., Stroud	Sec. 18-19n-6e	Comp.	1,200
Roxana Petroleum Corp., Drumright	Sec. 1-14n-6e	Absp.	7,000
Roxana Petroleum Corp., Covington	Sec. 8-17n-7e	Absp.	3,500
Roxana Petroleum Corp., Mannford	Sec. 18-22n-3w	Comp.	10,000
Sand Springs Home, Box 277, Sand Springs	Sec. 18-19n-9e	Absp.	1,500
Sand Springs Home, Box 277, Sand Springs	Sec. 4-19-7	Comp.	3,000
Shaffer Oil & Refining Co., Mehan	Sec. 6-19-12	Absp.	3,000
Shaffer Oil & Refining Co., Shamrock	Mehan	Absp.	6,000
Shaffer Oil & Refining Co., Drumright	Shamrock	Absp.	4,000
Shaffer Oil & Refining Co., Kellyville	Drumright	Absp.	4,000
Signal Gasoline Co., Inc., Bristow	Kellyville	Absp.	2,000
Signal Gasoline Co., Inc., Bristow	Bristow	Absp.	4,000
Silurian Oil Co., Avant	Bristow	Absp.	4,000
Sinclair Oil & Gas Co., Cleveland	Sec. 17-23-12	Comp.	2,000
Sinclair Oil & Gas Co., Drumright	Sec. 35-21-8e	Comp.	4,500
Sinclair Oil & Gas Co., Shamrock	Sec. 28-18-7e	Comp.	8,500
	Sec. 28-17-7e	Comp.	14,500

all over the world Madison-Kipp Lubricators are leading

70% *of all Oil Engines built in America and a considerable percent of foreign built engines are equipped with Madison-Kipp Lubricators.*



160 H. P. "Western" Duplex Gas Engines—All Madison-Kipp Lubricated, Midway Gas No. 2 Booster Plant, Signal Hill.

On the "Western" Duplex Gas Engine

The Madison-Kipp Fresh Oil Lubricator is now Standard Equipment for the "Western" Duplex Gas Engine, built by Western Machinery Company, Los Angeles, California.

Fresh Oil is unfailingly supplied to the cylinders and the bearings by the Madison-Kipp Lubricator.

Due to the unique Madison-Kipp valveless and registering-port principle the Madison-Kipp Lubricator supplies Fresh Oil in measured quantities to the cylinders and bearings *at all engine speeds.*

So long as the engine or pump equipped with Madison-Kipp Lubricators runs, the Madison-Kipp *keeps it properly lubricated.*

The sight feed indicator shows accurately the oil *that is delivered to the engine.*

Madison-Kipp Lubricators are flexible in size, oil feed adjustment, type and drive location. They can be readily applied to any engine, pump or compressor in the field. They are built with the ruggedness necessary to stand up to oil field work for *long periods* of time *without repair.*

They are stocked in Oil Field Supply Stores.

MADISON-KIPP LUBRICATORS are easily applied in the field on

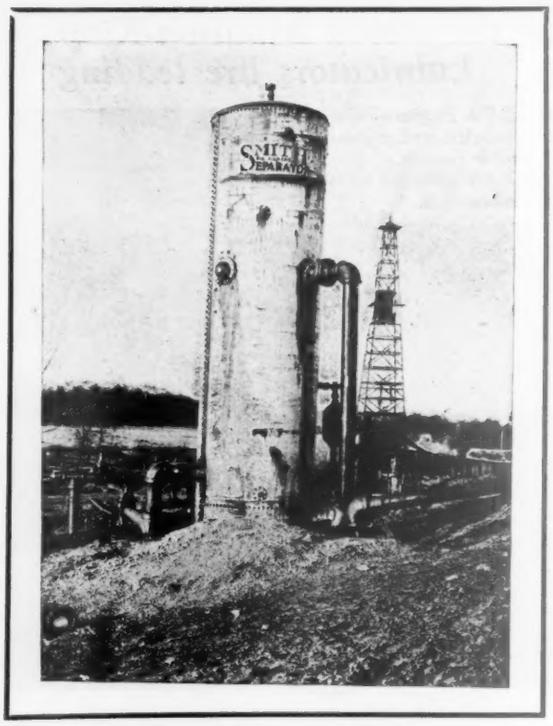
Oil, Gas, Steam Drilling Engines
Oil, Gas Pumping Engines
Compressors
Steam Pumps
Slush Pumps
Stationary Power

Directions for application are in the box of the Lubricator

FRESH OIL

Madison-Kipp Lubricators

Lubrication Specialists Since 1900 *Madison Wisconsin U.S.A.*



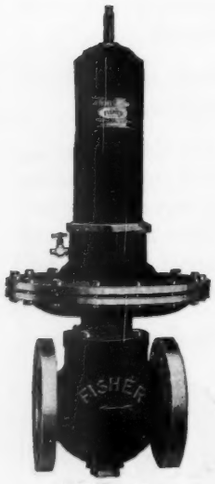
The illustration above shows a Smith Separator installed on a gas line in the Davenport field.

SMITH OIL AND GAS SEPARATORS

Smith Oil and Gas Separators are used by many of the leading manufacturers. They are installed on the gas lines to the gasoline plant, giving the maximum amount of gas for the production of Natural gasoline.

Smith Oil and Gas Separators are regarded as standard equipment by leading operators, many of whom report increase in the gasoline recovery from their use.

Send for Catalogue



TYPE 87

Fisher equipment for Natural gasoline plants is recognized as the leader in its field.

Each piece, originally designed to meet some individual engineering problem, has become standardized to meet every condition.

Illustration at the left is Type 87 Fisher Combination Back Pressure and Vacuum Regulator, casing head self-enclosed type.

Natural Gasoline

The manufacture of Natural Gasoline is developing into an exact science.

Modern methods demand modern equipment —equipment that will reduce operating losses . . . costs . . . that will increase production and raise the quality.

This organization has kept pace with the Natural Gasoline Industry, contributing to its advancement through making easily available such equipment as had proven its ability to render an efficient and economical service.

This equipment is standard—is so accepted by the leaders in the Natural Gasoline Industry. It is dependable and may be relied upon to perform its allotted tasks satisfactorily.

Check over the various lines shown on these two pages. Note that every article is a leader with an established record of praiseworthy performance. It's a line of plant equipment you can safely and profitably specify for replacement or for your new plants.

Our engineers are at your service to aid you in solving your plant equipment problems.

Ask for complete catalogue of our line.

SMITH SEPARATOR COMPANY

Tulsa *Okla.*

NEW YORK OFFICE:
Export Representative:
Oil Field Equipment Co.,
30 Church St., New York

Cable Address:
"Oilfields," New York

CALIFORNIA OFFICE:
2039 East 38th St.,
Los Angeles, Calif.

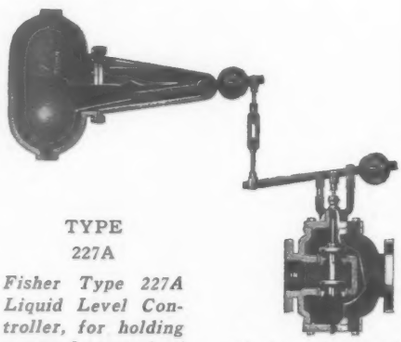
LOUISIANA OFFICE:
405 Forest Ave.,
Shreveport, La.

LONDON OFFICE:
Perkins MacIntosh Petroleum Tool & Boring Co., Ltd.,
25 Bishopsgate

Cable Address:
"Oleborers," London

TEXAS OFFICES:
924 Post Dispatch Bldg.,
Houston, Texas

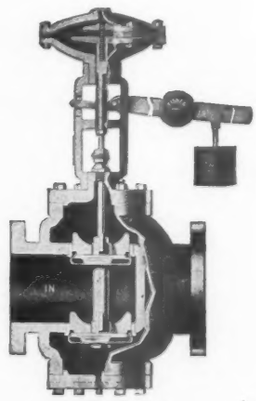
1402 Fort Worth National Bank Bldg.,
Fort Worth, Texas



TYPE
227A

Fisher Type 227A Liquid Level Controller, for holding a predetermined level of liquid in stills, tanks, etc., where an external float is preferred.

Fisher Automatic Relief Valve, Type 14. This valve will discharge into any service lower than the initial pressure.



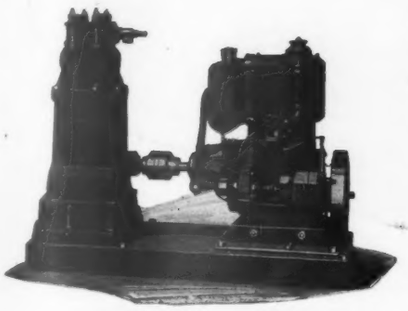
TYPE 14

Plant Equipment

Victaulic Couplings

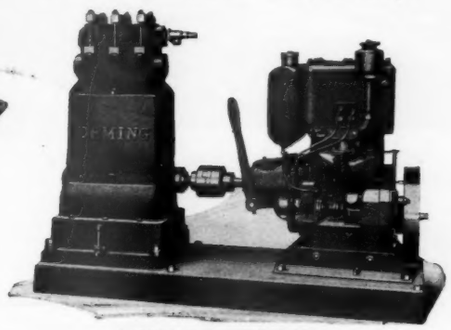
Natural Gasoline manufacturers are rapidly adopting Victaulic Couplings as the most efficient flexible pipe coupling yet introduced to the Industry. Its simplicity of construction, ease of application, ability to remain leak-tight under high pressures over long periods of time, all commend it as a coupling that will meet every requirement successfully.

A PIPE LINE LAYING RECORD WITH VICTAULIC JOINTS
Three miles of 2" line, carrying Natural Gas.
A five man crew laid 500 joints per day.
When tested with 400 lbs. pressure inlet
and 70 lbs pressure outlet, no leaks developed.
The maximum record on screwed pipe would
have been 250 joints per day with a six man crew
2" GAS LINE FROM
PARSON POOL
CHESTNUT-SMITH CORP.
RANGER - TEX.



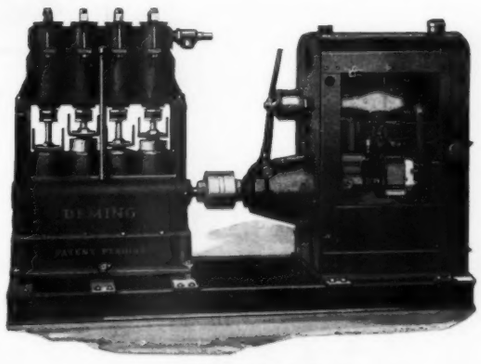
TYPE 992 DUPLEX

The new Deming "99" Pump is a favorite portable, self-contained pumping unit for use around Natural Gasoline Plants. Its high efficiency, extreme portability, simplicity of construction and low operating costs make the "99" the most efficient pumping unit to be found. Powered with Novo Engine or electric motor. Fully enclosed, perfectly lubricated and practically dust proof.



TYPE 993 TRIPLEX

This "99" line is built in duplex, triplex and quadruplex with a wide range of capacities and pressures. Users of this equipment are enthusiastic over its efficiency, portability and adaptability to practically every pumping job around a natural gasoline plant.



994 QUADRUPLEX

SMITH SEPARATOR COMPANY

Tulsa Okla.

NEW YORK OFFICE:
Export Representative:
Oil Field Equipment Co.,
30 Church St., New York

Cable Address:
"Oilfields," New York

CALIFORNIA OFFICE:
2039 East 38th St.,
Los Angeles, Calif.

LOUISIANA OFFICE:
405 Forest Ave.,
Shreveport, La.

LONDON OFFICE:
Perkins MacIntosh Petroleum Tool
& Boring Co., Ltd.,
25 Bishopsgate

Cable Address:
"Oleborers," London

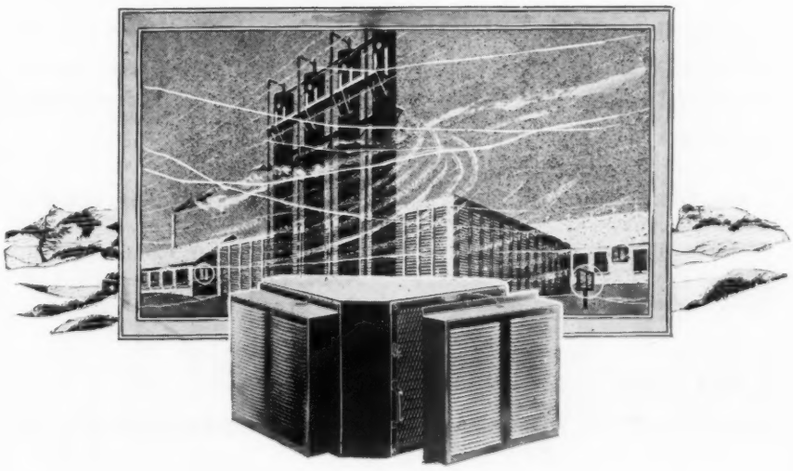
TEXAS OFFICES:
924 Post Dispatch Bldg.,
Houston, Texas

1402 Fort Worth National Bank Bldg.,
Fort Worth, Texas

Reed Air Filters

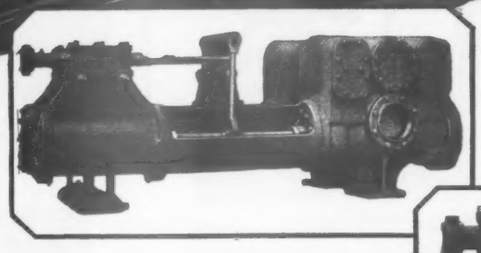
Clean air delivered to your compressors is a guarantee against shut downs caused by wear and tear from dust and dirt that enters the compressor with the air.

Some of the largest operators, after exhaustive tests have standardized on Reed Air Filters and as a result are experiencing a higher efficiency of operation over longer periods of time with a marked saving in repair and shut-down costs.

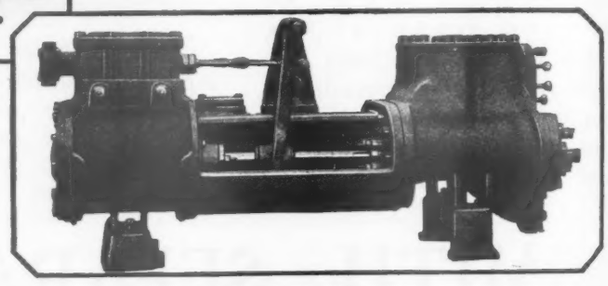


WORTHINGTON

5½ in. by 18 in. horizontal forged-cylinder pipe-line power pump for pressures up to 1,000 lb. per sq. in.



12 in. by 9 in. by 18 in. duplex block-valve pump for pressures up to 600 lb. per. sq. in.



14 in. by 4½ in. by 12 in. duplex piston pump for general service. For pressures up to 1,000 lb. per. sq. in.

Worthington Pumps *for* *the* Oil Field ~ *the* Pipe Line ~ *the* Oil Refinery

Steam Driven: Slush Pumps, Cementing Pumps, Gathering Pumps, Line Pumps, Boiler-feed Pumps

Power Driven: Charging Pumps, Hot Oil Pumps, General Service Pumps, Transfer and Loading Pumps

WHEN the Oil Industry requires a pump, the need is immediate. You can get the Pump you want from the Worthington stock in your territory. This is only a part of Worthington Service to the Oil Industry. Quick shipment from Worthington factories of special pumps for special service conditions is another service feature. Worthington pumps are in stock at—

Tulsa, Oklahoma	Worthington Machinery Corp. of Okla.
Borger, Texas	Western Supply Company
Houston, Texas	A. M. Lockett & Company, Ltd.
Dallas, Texas	A. M. Lockett & Company, Ltd.
Los Angeles, Cal.	The Worthington Company, Inc.

PUMPS
Steam and Power
Reciprocating and Centrifugal

COMPRESSORS
Air, Gas and Ammonia

CONDENSERS
Surface, Jet, Barometric
Steam Air Ejectors and Auxiliaries

ENGINES
Oil and Gas

FEEDWATER HEATERS
Locomotive and Stationary

METERS
Water and Oil

6135-7

WORTHINGTON PUMP AND MACHINERY CORPORATION, 115 BROADWAY, NEW YORK CITY, BRANCH OFFICES IN 24 CITIES

OKLAHOMA (Continued)

Company and Plant Address—	Field Location—	Type of Plant	Daily Capacity Gallons
Sinclair Oil & Gas Co., Haskell	Sec. 23-15-14e	Comp.	2,000
Sinclair Oil & Gas Co., Stonebluff	Sec. 5-16-15e	Comp.	500
Sinclair Oil & Gas Co., Covington	Sec. 19-22-3w	Absp.	60,000
Sinclair Oil & Gas Co., Hominy	Sec. 9-23-8e	Comp.	4,000
Sinclair Oil & Gas Co., Shidler	Sec. 29-27-6e	Absp.	40,000
Sinclair Oil & Gas Co., Cromwell	Sec. 4-10-8e	Absp.	25,000
Sinclair Oil & Gas Co., Seminole	Sec. 35-9-6	Absp.	80,000
Sinclair Oil & Gas Co., Seminole	Sec. 22-9-6	Comp.	10,000
Skelly Oil Co., Wynona	Sec. 24-24-9	Comp.	7,000
Skelly Oil Co., Slick	Sec. 15-15-10	Absp.	11,000
Skelly Oil Co., Bristow	Sec. 15-14-8	Absp.	5,000
Skelly Oil Co., Bristow	Sec. 4-15-9	Absp.	3,200
Skelly Oil Co., Maramec	Sec. 15-20-6	Absp.	5,000
Skelly Oil Co., Davenport	Sec. 7-15-6	Char.	1,500
Skelly Oil Co., Davenport	Sec. 2-14-5	Absp.	7,250
Skelly Oil Co., Lyman	Sec. 11-27-5	Absp.	28,500
Smith, T. K., Skiatook	Skiatook	A-C	500
Southland Gasoline Co., Oilton	Sec. 33-19-7	Comp.	3,000
Southland Gasoline Co., Sapulpa	Sec. 19-18-12	Comp.	1,500
Southwest Pipe Line Co., Bristow	1 mile north of Bristow	Absp.	2,000
Standard Oil Co. of Indiana	Sec. 4-18n-7e	Comp.	15,840
Standard Oil Co. of Indiana	Sec. 21-17n-7e	Comp.	17,680
Standard Oil Co. of Indiana	Sec. 34-18n-7e	Comp.	20,064
Standard Oil Co. of Indiana	Sec. 4-16n-7e	Comp.	6,300
Star Gasoline Co., Sapulpa	Eram	Absp.	800
Stebbins Oil & Gasoline Co., Inola	Sec. 9-19-16	Absp.	500
Stebbins Oil & Gasoline Co., Boynton	Sec. 17-14-16	Comp.	200
Sterling Oil & Gas Co., 418 Citizens National Bank Bldg., Abilene, Tex.	Sec. 1-21-11	Absp.	600
Test Gasoline Co., Bartlesville	Dewey	Comp.	3,000
The Texas Company, Drumright	Sec. 16-17n-7e	Comp.	9,510
The Texas Company, Kiefer	Sec. 8-17n-12e	Comp.	13,365
The Texas Company, Oilton	Sec. 9-18n-7e	Comp.	4,610
The Texas Company, Preston	Sec. 11-14n-12e	Comp.	2,363
The Texas Company, Haskell	Sec. 22-15n-14e	Comp.	3,153
The Texas Company, Beggs	Sec. 22-15n-11e	Absp.	4,620
The Texas Company, Beggs	Sec. 29-15n-14e	Comp.	1,950
The Texas Company, Osage	Sec. 35-21n-8e	Comp.	1,875
The Texas Company, Davenport	Sec. 2-14n-5e	Absp.	11,200
The Texas Company, Jenks	Sec. 2-18n-12e	Comp.	804
Tidal Chelsea Refining Co., Chelsea	Sec. 4-24n-17e	Absp.	10,000
Tidal Chelsea Refining Co., Chelsea	Sec. 7-25n-17e	Absp.	3,000
Tidal Refining Co., Drumright	Sec. 8-17n-7e	Absp.	15,000
Tidal Refining Co., Ochelata	Sec. 12-24n-12e	Comp.	3,000
Tidal Refining Co., Glenn Pool	Sec. 14-17n-13e	Absp.	15,000
Tidal Refining Co., Garber	Sec. 7-22n-3w	Comp.	1,500
Tidal Refining Co., Bartlett	Sec. 36-12n-13e	Comp.	2,500
Tidal Refining Co., Keystone	Sec. 24-20n-9e	Absp.	2,000
Tiger Mountain Oil Co., Youngstown	Sec. 36-14-11	Comp.	5,000
Tiger Mountain Oil Co., Bartlette	Sec. 35-12-13	Comp.	2,500
Transcontinental Oil Co., Box 2067, Tulsa	Sec. 1-25n-16e	Comp.	500
Transcontinental Oil Co., Box 2067, Tulsa	Sec. 22-13-14	Absp.	5,000
Transcontinental Oil Co., Box 2067, Tulsa	Sec. 28-15-14	Absp.	2,500
Transcontinental Oil Co., Box 2067, Tulsa	Sec. 24-25-16	Comp.	1,000
Transcontinental Oil Co., Box 2067, Tulsa	Sec. 11-13-14	Comp.	1,500
Transcontinental Oil Co., Box 2067, Tulsa	Sec. 27-16-9	Absp.	9,000
Transcontinental Oil Co., Box 2067, Tulsa	Sec. 1-14-15	Comp.	1,000
Triumph Gasoline Co., Morris	Sec. 12-14-14	Comp.	1,400
Twin State Oil Co., Quay	Quay	Comp.	2,000
United States Zinc Co., Henryetta	Henryetta	Absp.	2,000
Valley Osage Oil Co., Sapulpa	Sec. 21-18-11	Comp.	1,500
Victor Gasoline Co., Box 272, Bristow	Bristow	Comp.	2,000
Victor Gasoline Co., Box 272, Bristow	Bristow	Absp.	6,000
Victor Gasoline Co., Box 1625, Drumright	Drumright	Comp.	4,000
Victor Gasoline Co., Box 152, Davenport	Davenport	Absp.	6,000
Victor Gasoline Co., Box 7, Covington	Covington	Comp.	3,000
Victor Gasoline Co., Seminole	Seminole	Comp.	†10,000
Warner-Caldwell Oil Co., Nowata	Sec. 26-26-14	Absp.	200
Warner-Caldwell Oil Co., Nowata	Sec. 7-26-16	Absp.	300
Warner-Caldwell Oil Co., Nowata	Sec. 1-25-16	Absp.	1,000
Warner-Caldwell Oil Co., Nowata	Sec. 17-26-17	Absp.	500
Warner-Caldwell Oil Co., Nowata	Sec. 19-26-16	Absp.	200
Watchorn Oil & Gas Co., Morrison	Sec. 33-23-3e	Absp.	*15,000
Wentz, L. H., Ponca City	Sec. 21-28n-1e	Comp.	5,000
Wentz, L. H., Ponca City	Sec. 34-25n-1w	Absp.	15,000
Wilcox Oil & Gas Co., Beggs	Sec. 30-15-11	Comp.	2,500
Wilcox Oil & Gas Co., Bristow	Sec. 32-15-8	Absp	2,500
Wilcox Oil & Gas Co., Slick	Sec. 33-15-10	Absp.	2,500
Wiser Oil Co., Bartlesville	Sec. 31-25n-17e	Comp.	2,500
Wiser Oil Co., Bartlesville	Sec. 27-27n-13e	Comp.	1,000
Wolverine Petroleum Corp., Avant	Sec. 12-23n-11e	Comp.	3,000
Wolverine Petroleum Corp., Copan	Sec. 32-28n-13e	Comp.	600
Wolverine Petroleum Corp., Bartlesville	Sec. 26-26n-13e	Comp.	1,000
Wolverine Petroleum Corp., Bartlesville	Sec. 13-26n-12e	Comp.	2,000
Wolverine Petroleum Corp., Wilson	Sec. 21-45-2w	Absp.	1,000
Wolverine Petroleum Corp., Avant	Sec. 24-24n-11e	Comp	6,500
Worley & Jones, Okmulgee	Okmulgee	Absp.	500
Wright, J. H., Sapulpa	Sec. 24-17n-10e	Absp.	4,000
PENNSYLVANIA			
Adrian & Co., Ryerson Sta.	Rich Hill Twp.	Comp.	15
Allegany Gas Co., Port Allegany	East Sharon	C-A	400
Alum Rock Gas Co., Fern	Fern	Comp.	150
Associated Producers Co., New York City	Kinzua, Warren County	Comp.	100
Atlas Oil Co., Clarion	Farmington Twp.	Comp.	50
Banks Oil & Gas Co., Petrolia	Butler County	Comp.	100
Benninghoff-Davis et al, Petroleum Center	Petroleum Center	Comp.	100
Berlin & Son, J. C., Knox	Clarion County	Comp.	50
Bizzard Gas Co., Emlenton	Emlenton	Comp.	100
Boundy Bros. & Co., Cameron, W. Va.	Rich Hill Twp.	Comp.	15
Breen et al, Oil City	Pioneer	Comp.	800
Brundred Gasoline Co., Oil City	Venango County	Comp.	1,000
Burgettstown Oil Co., Burgettstown	Washington County	Comp.	50
Burrell Oil & Gas Co., Waynesburg	Waynesburg	Absp.	500
Carnegie Natural Gas Co., Waynesburg	Franklin Twp.	Absp.	2,000
Carnegie Natural Gas Co., Pittsburg	Mt. Morris	Comp.	600
Carnegie Natural Gas Co., Lone Pine	Lone Pine	Comp.	900
Carpenter, M. A., Karns City	Fairview Twp.	Comp.	50
Carrie, Tracy, Pioneer	Pioneer	Comp.	100
Clinger Oil & Gas Co., Tidioute	Fagundus	Comp.	800
Clinger Oil & Gas Co., Freemans	Hastings Bridge	Comp.	700
Cochran, John G. & Co., Sheffield	Sheffield Twp.	Absp.	700
Cook Oil Lease, Kellettville	Mayburg	Comp.	500
Crown Central Petroleum Corp., Box 1805, Houston, Tex.	Tidioute	Comp.	2,000
Daugherty, C. R. & Co., Butler, Pa.	Herman Station	Comp.	40
Daugherty, C. R. & Co., Butler, Pa.	Petrolia	Comp.	55
Daugherty, C. R. & Co., Butler, Pa.	Oakdale	Comp.	95
Davidson & Farrell, Pioneer	Pioneer (2)	Comp.	500
Dempseytown Gas Co., Oil City	Shippenville	Comp.	50
Eaton, J. P. Co., Grand Valley	Grand Valley	Comp.	600
Edwards Oil Co., Beaver	Beaver County	Comp.	5,000
Elliott Brothers, Chicora	Chicora	Comp.	5,000
Equitable Gas Co., Rogersville	Green County	Absp.	2,500
Equitable Gas Co., Clarksville	Washington County	Absp.	600
Faith Oil & Gas Co., Titusville	Forest County	Comp.	*100
Federal Oil Co., Oakdale	1 mile east Oakdale	Comp.	65
Fleming, J. E., Titusville	Warren County	Comp.	500
Forest Oil & Gas, Clinton	Beaver County	Comp.	100
Gesin & Shaw, Tidioute	Tidioute	Comp.	200
Glass, George N., McDonald	Cecil Twp.	Comp.	30
Gould, Nancy E. & Son, Butler	Butler County	Comp.	30
Hague & Co., Tidioute	Tidioute	Comp.	100
Haskell & Bayliss, Pleasantville	Butler County	Comp.	150
Haskell & Dunham, Pleasantville	Warren County	Comp.	100
Hayes, E. F., Sons & J. H. Myers, Chicora	Chicora	Comp.	50
Hess, I. C., Fern	Millerstown	Comp.	500
Hess, I. C., Fern	Fern	Comp.	200
Hess, I. C., Fern	Billings	Comp.	100
Highland Oil & Gas Co., Clarion	Miola	Comp.	175
Hodden, J. B., Sheffield	Henry's Mill	Comp.	50
Home Gas Co., Clarion	Highland Twp.	Comp.	50
Hope Construction & Refining, Pittsburgh	Brave	Absp.	16,000
Hope Construction & Refining, Pittsburgh	Imperial	Char.	3,000
Hope Construction & Refining, Pittsburgh	McKeesoprt	Char.	2,000
Hope Construction & Refining, Pittsburgh	Pew	Absp.	2,000
Hope Construction & Refining, Pittsburgh	Valley	Absp.	*500
Hunter & Hawkey, Tidioute	Forest County	Comp.	300

TIDAL
Companies

Tidal Refining Co.

Tidal-Western
Petroleum Corp.

Tidal-Chelsea
Refining Company

Manufacturers
of

NATURAL
GASOLINE

in
Texas
Kansas
Oklahoma

Tidal Building
TULSA

"Sunoco" Absorption Oil

For years we have been carrying on investigations striving for the development of a perfect *Absorption Oil* for use in plants engaged in the extraction of gasoline from natural gas.

We would appreciate an opportunity of demonstrating to you the excellence of our *"Sunoco" Absorption Oil* and that it will

1st.—Increase your daily gasoline production.

2nd.—Lower your manufacturing cost per gallon of gasoline produced;

3rd.—Control your end points.

These desirable results are obtained by a careful control of the distillation range of our product and high heat transfer resulting from low molecular weight of our product.

The number of companies using *"Sunoco" Absorption Oil* is proof of its unquestionable quality. We ask an opportunity of supplying you with your future requirements.

Our Engineering Department will be glad to co-operate with you in the development of your plant and will give you the benefit of our research work pertaining to *Absorption Oils.*

SUN COMPANY

PETROLEUM BLDG. TULSA, OKLA.

PENNSYLVANIA (Continued)

Company and Plant Address—	Field Location—	Type Plant of	Daily Gallons Capacity
Iman, Fred F., Chicora	Chicora	Comp.	25
Jackson, F. W., Chicora	Chicora	Comp.	400
Jennings, E. H., Bros., Pittsburgh	Noblestown (3)	Comp.	1,700
Johnson & Myers Bros., Tidioute	Warren County	Comp.	200
Kapp & Brockelhurst, Tidioute	Tidioute	Comp.	225
Laughner, E. E., Ambridge	Legionville, Economy Twp.	Comp.	65
Laughner, E. E., Beaver	Beaver County	Comp.	400
Manufacturers' Light & Heat Co., Waynesburg	Franklin Twp.	Absp.	2,500
Mars Co., Oil City	Clarion	Absp.	1,800
Mars Co., Oil City	Venango County	C-A	4,000
Mars Co., Oil City	Potter County	C-A	750
Mars Co., Oil City	Lewis Run	C-A	6,500
Mars Co., Oil City	Forest County	Absp.	1,500
Mars Co., Oil City	Venango County	C-A	7,500
Masters & Hess, Elmo	Elmo	Comp.	300
McCray & Espy, Petroleum Center	Petroleum Center	Comp.	300
Meter Gas Co., Oil City	Oil City	Comp.	1,000
Midland Oil Co., Petroleum Center	Petroleum Center	Comp.	200
Mongellyzinger & Exley, Oil City	Fertigs	Comp.	75
Montgomery, James, Rfd. No. 1, McCoy Road	McCoy Road	Comp.	40
Myers & Hayes, Chicora	Butler County	Comp.	55
National Petroleum Co., Titusville	Grand Valley	Comp	500
National Petroleum Co., Titusville	West Hickory	Comp.	500
National Petroleum Co., Titusville	West Hickory	Comp.	80
Norton & Jackson, Tidioute	Tidioute	Comp.	72
Pan Handle Oil Co., Oakdale	1 mile north Oakdale	Comp.	50
Parker, H. R., Chicora	Chicora	Comp.	100
Pencolo Gas & Oil Co., Denver, Colo.	Emlenton	Comp.	200
Pennsylvania Gas Co., Oil City	Roystone	Absp.	2,000
Pequignot, E. O., Tidioute	Forest County	Comp.	400
Pequignot, E. O., Tidioute	West Hickory	Comp.	350
Pioneer Oil Co., Pioneer	Pioneer (2)	Comp.	600
Porter Bros., Catfish	Catfish	Comp.	100
Potter Gas Co., Fort Allegany	East Sharon (2)	Absp.	1,400
President Oil Co., Emlenton	Butler County (2)	Comp.	250
President Oil Co., Emlenton	Venango County	Comp.	500
Reitz Service Station, Conoquenessing	Conoquenessing	Comp.	75
Ritenour Oil & Gas, McKees Rocks	Pine Hollow Road	Comp.	250
Reserve Gas Co., Pittsburgh	Camden	Absp.	13,000
Reserve Gas Co., Pittsburgh	Kennedy	Absp.	20,000
Riddle Farm Oil Co., Karns City	Karns City	Comp.	50
Royle & De Arme, Butler	Butler	Comp.	50
Sandy Oil & Gas Co., Shippenville	Shippenville	Comp.	400
Say, George K., Karns City	Karns City	Comp.	100
Service Gasoline Co., St. Marys	Mt. Jewett	Comp.	50
Sharpe, Rowe & von Tacky Bros., Titusville	Titusville	Comp.	100
Sloan & Zook Co., Bradford	Kane	Absp.	500
Southern Oil Co., Pittsburgh	Canonsburgh	Comp.	60
Southern Oil Co., Pittsburgh	Clarion	Comp.	50
Southern Oil Co., Pittsburgh	Elmo	Comp.	55
Southern Oil Co., Pittsburgh	Greece City	Comp.	*
Southern Oil Co., Pittsburgh	Miola	Comp.	270
Southern Oil Co., Pittsburgh	Pleasantville	Comp.	40
South Penn Oil Co., Warrendale	Crows Run, Economy Twp.	Comp	60
South Penn Oil, Pittsburgh	Banks	Comp.	
South Penn Oil, Pittsburgh	Bell	Comp.	
South Penn Oil, Pittsburgh	Bingham	Comp.	
South Penn Oil, Pittsburgh	Judd & Geiser	Comp.	
South Penn Oil, Pittsburgh	Kerr	Comp.	
South Penn Oil, Pittsburgh	May	Comp.	
South Penn Oil, Pittsburgh	Porcupine	Comp	Combin'd
South Penn Oil, Pittsburgh	Sturgeon	Comp.	Capacity
South Penn Oil, Pittsburgh	Wallace	Comp.	10,000
Splane, W. W., Oil City	Pleasantville	Comp.	400
Stephens, W. J., Grand Valley	Grand Valley	Comp.	100
Stewart Oil & Gas Co., Baden	Crows Run, Economy Twp.	Comp	35
Stoneham Gasoline Co., Stoneham	Stoneham	Absp.	500
Straub, J. W., Pioneer	Pioneer	Comp.	800
Swartzlander, H. L., & Co., Chicago	Butler County	Comp.	1,000
Success Oil Co., Pioneer	Pioneer	Comp.	500
Thomas, R. L., Tidioute	Warren County (2)	Comp.	180
Tionesta Gas Co., Oil City	Forest County	Absp.	100
Veach Oil Co., Trunkeyville	Trunkeyville	Comp.	150
Wahl, A. R., Evans City	Evans City	Comp.	200
Wheeler, D. H., Box 86, Petrolia	Petrolia	Comp.	50
Warner-Caldwell Oil Co.	Crawford County	Comp.	100
Will, Jacob, McDonald	Chartiers Twp.	Comp.	30
Woods, George L., Fern	Fern	Comp.	250

*Shut down.

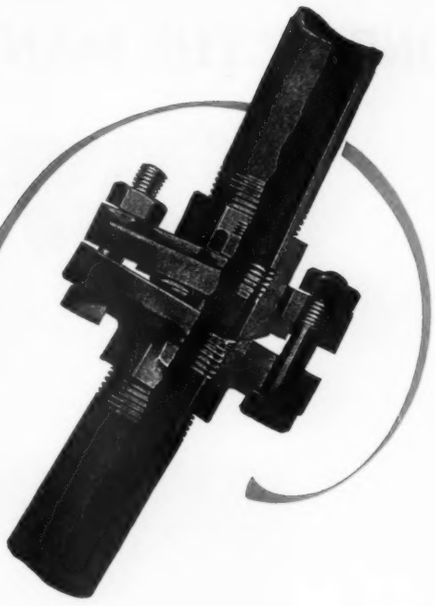
TENNESSEE

McClurkin, John H., Celina	Barlow Langley farm, Mill Creek Dome, Clay Co.	Comp.	100

TEXAS

Amerada Petroleum Corp., Coleman	Jesse Chandolin, Survey 621, Brown County	Absp.	25,000
American Gasoline Corp., Breckenridge	Breckenridge	Absp.	5,000
American Gasoline Corp., Waskom	Waskom	Absp.	*7,500
American Refining Co., Inc., Wichita Falls	Burkburnett	Comp.	2,000
Arab Gasoline Corp., Eastland	Blk. 4, Sec. 17, H. & T. C. Ry. Sur., Eastland Co.	Absp.	18,000
Arkansas Fuel Oil Co., Pittsburgh, Pa.	N. Ussery Sur., Eastland Co.	Absp.	6,000
Associated Producers Gasoline Co., 503 Rule Bldg., Amarillo, Tex.	NE SE Sec. 19, Blk. Y, Hutchinson County	Absp.	2,500
Atlantic Oil Prod. Co., Pampa	Blk. 83, I. & G. N. Sur., Gray County	Absp.	10,000
Big Lake Oil Co., Texon	Big Lake Field	Absp.	10,000
Boudinot Gasoline Co., Amarillo	Amarillo	Absp.	10,000
Roudinot Gasoline Co., Ranger	Ranger	Absp.	5,000
Breckenridge Gasoline Co., Breckenridge	Breckenridge	Absp.	10,000
Brooks & Hanlon, Inc., Breckenridge	Breckenridge	Absp.	32,000
Bryan, Phelps & Ilseng, 1507 F. & M. Bldg., Fort Worth	Lela, Wheeler County (2)	Absp.	15,000
Cannon Gasoline Co., Amarillo	2¼ mi. north Amarillo	Absp.	5,000
Chestnut & Smith Corp., Eastland	Eastland	C-A	6,000
Chestnut & Smith Corp., Ranger	Ranger (four plants)	C-A	90,000
Cockrell-McIlroy Oil Co., Amarillo	Hutchinson County	Absp.	7,000
Columbian Gasoline Corp., Shamrock	Shamrock	Absp.	15,000
Consolidated Gasoline Co., Eastland	Eastland	Absp.	15,000
Continental Oil Co. of Texas, Burkburnett	Powell farm	Comp.	3,500
Continental Oil Co. of Texas, Electra	W. T. Waggoner farm	Comp.	2,500
Continental Oil Co. of Texas, Electra	Burnett "B" farm	Comp.	2,500
Coyle-McQuitt, Amarillo	Hutchinson County	Absp.	12,000
Desdemona Gasoline Co., Desdemona	Desdemona	Absp.	5,000
Dixon Creek Oil Co., Amarillo	Blk. Y, Hutchinson Co.	Absp.	20,000
Empire Gasoline Co., Pampa	Sec. 152, Blk. 3, I. & G. N. Sur., Gray County	Absp.	2,000
Empire Gasoline Co., Weatherly	Sec. 19, Blk. Y, Morris & Cummins, Hutchinson Co.	Charc.	3,500
Federal Gasoline Co., Amarillo	Two mi. south Borger, Hutchinson County	Absp.	†12,000
Gilmore, Forest E., Mineral Wells	Sec. 34, Blk. A	Absp.	3,000
Gulf Production Co., Burkburnett	N. half Blk. 86, Eliz. Stanley Sur. A-259, R. R. V. L.	Comp.	4,408
Gulf Production Co., Burkburnett	Outer Blk. 18, T. J. Redman Sur.	Comp.	3,317
Gulf Production Co., Electra	E half S. P. R. Co.'s No. 2 Sur. A-674, Wichita Co.	Comp.	1,663
Gulf Production Co., Breckenridge	NE cor. T. E. & L. Sur. No. 3,386, Stephens Co.	Absp.	7,000
Gulf Production Co., Breckenridge	SE Sec. 19, S. P. R. R. Sur. Blk. 2, Stephens County	Absp.	4,100
Gulf Production Co., Breckenridge	NE Sec. 1, L. A. L. Sur., Stephens Co.	Absp.	10,560
Gulf Production Co., Eastland	NE Sec. 29, H. & T. C. Survey, Blk. 4, Eastland Co.	Absp.	9,000
Gulf Production Co., Ranger	W. H. Ahrenbeck & Bro. Sur., Eastland County	Absp.	12,620
Hanlon Gasoline Co., Tulsa, Okla.	Breckenridge (4)	Absp.	50,000
Hart Oil Corp., Fort Worth	Northeast of Caddo	Absp.	500
Hirt & McDermitt Co., 407 Capps Bldg., Fort Worth	Desdemona (2)	Absp.	5,000
Hirt-McDermitt Gasoline Co., 407 Capps Bldg., Fort Worth	Desdemona (2)	Absp.	5,000
Humble Oil & Refining Co., Breckenridge	Stephens County (3)	Absp.	20,300
Humble Oil & Refining Co., Desdemona	Eastland County	Comp.	3,200

Jefferson MAKES THE Handiest UNIONS and FLANGES



The ease with which JEFFERSONS are applied or disconnected is a time and money saving feature of the world's largest selling unions and flanges.

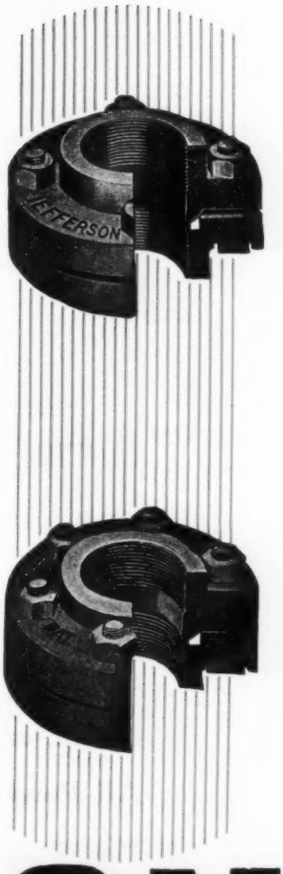
All types of JEFFERSON unions and flanges have liberal play between parts—which allows quick and easy application without using force, even when pipe ends are not in line. Accurate nut threads promote rapid adjustment. Because nut threads are heavily coated with graphite, they do not corrode and are easily disconnected at any time.

The JEFFERSON ground ball, brass-to-iron joint is *absolutely non-leakable, requires no gasket,* and *does not corrode.* There is a type of JEFFERSON union for every requirement.

JEFFERSON UNION COMPANY

Lexington, Mass., U. S. A.

Handled by all Leading Oil Industry Jobbers



JEFFERSON

ONE OF THE MANY TROUBLE-FREE INSTALLATIONS OF

POWELL VALVES

Air Lift Plant

The Turmon Oil Company
Seminole, Oklahoma

The illustration is a typical installation of Powell Hydraulic Valves. Rugged design, careful processing, and accurate testing insure economy in service.

All Powell Products are characterized by long trouble-free service.

THE WM. POWELL CO.

2521-2531 Spring Grove Ave.
Cincinnati, Ohio

TEXAS (Continued)

Company and Plant Address—	Field Location—	Tpye of Plant	Daily Capacity Gallons
Humble Oil & Refining Co., Burkburnett	Wichita County	Comp.	1,800
Humble Oil & Refining Co., Breckenridge	Stephens County	Absp.	2,700
Humble Oil & Refining Co., Corsicana	Navarro County	Absp.	20,000
Humble Oil & Refining Co., Rising Star	Brown County	Absp.	10,500
Humble Oil & Refining Co., Woodson	Throckmorton County	Absp.	7,000
Humble Oil & Refining Co., Vernon	Wilbarger County	Absp.	7,800
Humble Oil & Refining Co., Wortham	Freestone County	Absp.	3,000
Magnolia Gas Co., Latex	Latex	Absp.	6,000
Lone Star Gas Co., Petrolia	Petrolia	Absp.	15,000
Lone Star Gas Co., Gainesville	Gainesville	Absp.	12,000
Lone Star Gas Co., Brazos	Brazos	Absp.	4,000
Lone Star Gas Co., Gordon	Gordon	Absp.	25,000
Lone Star Gas Co., Desdemona	Desdemona	Absp.	3,000
Magnolia Petroleum Co., Archer	W. F. Parish farm	Comp.	500
Magnolia Petroleum Co., Burkburnett	A. C. Harlacher farm	Comp.	
Magnolia Petroleum Co., Burkburnett	J. D. Hardin farm	Comp.	5,660
Magnolia Petroleum Co., Burkburnett	Schmisseur "B" farm	Comp.	
Magnolia Petroleum Co., Coleman	J. P. Morris farm	C-A	250
Magnolia Petroleum Co., Comanche	J. W. Caruth farm	C-A	6,407
Magnolia Petroleum Co., Comanche	E. C. Woodard farm	Comp.	6,000
Magnolia Petroleum Co., Comanche	W. R. Caruth farm	Comp.	7,462
Magnolia Petroleum Co., Comanche	J. M. Mathews farm	Comp.	1,950
Magnolia Petroleum Co., Comanche	J. T. McMiller farm	Comp.	3,620
Magnolia Petroleum Co., Electra	T. F. Summer and R. R. Hamilton farm	Comp.	4,550
Magnolia Petroleum Co., Electra	T. M. Staniforth farm	Comp.	190
Magnolia Petroleum Co., Electra	T. Burnett ranch	Comp.	220
Magnolia Petroleum Co., Iatan	C. M. Adams farm	Comp.	280
Magnolia Petroleum Co., Laredo	Mag-Garcia farm	Comp.	130
Magnolia Petroleum Co., Olden	F. T. Connellee farm	Comp.	4,040
Magnolia Petroleum Co., Olden	P. O. Harris farm	Comp.	4,840
Magnolia Petroleum Co., Panhandle	W. W. Merten farm	C-A	1,800
Magnolia Petroleum Co., Panhandle	E. A. Worley farm	Absp.	†
Magnolia Petroleum Co., Stephens	J. W. Brown farm	C-A	2,460
Magnolia Petroleum Co., Stephens	A. M. Sullivan farm	C-A	1,930
Magnolia Petroleum Co., Stephens	J. M. Rush farm	C-A	3,070
Magnolia Petroleum Co., Thrall	H. A. Stiles farm	Comp.	50
Majestic Gasoline Co., Fort Worth	Desdemona	Absp.	*3,000
Marland Refining Co. (Roeser-Pendleton), Albany	Shackelford County (2)	C-A	21,000
Marland Refining Co., Isom	NE Sec. 20, Blk. Y, Hutchinson County	C-A	12,500
Marland Refining Co., Isom	NE Sec. 116, Blk 5, Hutchinson County	Absp.	3,500
McMan Oil & Gas Co., Burkburnett	Burkburnett	Comp.	10,000
McMan Oil & Gas Co., Desdemona	Desdemona	Comp.	12,000
McMan Oil & Gas Co., Desdemona	Desdemona	Absp.	3,500
Mid-Kansas Oil & Gas Co., Tulsa, Okla.	Sec. 20, Blk. 2, S. P. R. R. Stephens County	Absp.	13,000
Mid-Kansas Oil & Gas Co., Tulsa, Okla.	Sec. 19, Blk. 5, T. & P. R. R. Sur., Stephens Co.	Absp.	8,000
Mid-Kansas Oil & Gas Co., Tulsa, Okla.	Juanas Salinas Sur., Eastland County	Absp.	3,000
Mon-Tex Corp., Fort Worth	Sipe Springs	Absp.	*1,000
Noble Oil & Gas Co., Burkburnett	Burkburnett	Comp.	15,000
Ockland Gasoline Production Co., Desdemona	Powers Survey	Absp.	2,500
Omar Gasoline Co., Wichita Falls	Burkburnett	Comp.	9,500
Orfic Gasoline Co., Desdemona	Reynolds Survey	Comp.	6,000
Phelps Gasoline Co., Shamrock	SW Sec. 41, Wheeler Co.	Absp.	12,000
Phillips Petroleum Co., Breckenridge	SW 8, T. & P. R. R. Sur., Blk. 5, Stephens Co.	Absp.	7,000
Phillips Petroleum Co., Breckenridge	SW SW Sec. 17, T. & P. R. R. Sur., Blk. 8, Stehpens	Absp.	8,000
Phillips Petroleum Co., Breckenridge	NE SW Sec. 32, T. & P. R. R. Sur., Blk. 8, Stephens	Absp.	6,000
Phillips Petroleum Co., Breckenridge	SW cor. B. F. Satterwhite 2,000 acres., Tr. Blk. 15, T. & P. R. R. Sur., Blk. 6, Stephens County	Absp.	2,000
Phillips Petroleum Co., Pioneer	SW Sec. 21, Eastland Co.	Absp.	10,000
Phillips Petroleum Co., Pioneer	W cen. Port. W. A. Eaken 132-A Tract, Eastland Co.	Absp.	10,000
Phillips Petroleum Co., Pioneer	NE cor. W half R. Mitchell Sur. 140, Cross Cut district, Brown County	Charc.	3,000
Phillips Petroleum Co., Gorman	SE cor. Thos. Muiryne A-377, H. & T. C., Blk. 1, Eastland County	Absp.	4,000
Phillips Petroleum Co., Sedwick	NW Sec. 28, B. A. L., Shackelford Co.	Absp.	20,000
Phillips Petroleum Co., Megargel	17.61 A. T. E. & L. Sur. Blk. 2,403, Archer Co.	Comp.	4,000
Phillips Petroleum Co., Frankell	5 A. SE SW Sec. 51, T. & P. Sur., Blk. 6, Stephens	Absp.	5,000
Phillips Petroleum Co., Frankell	8 A. W half NE Sec. 43, T. & P. Sur., Blk. 6, Steph.	Absp.	4,000
Phillips Petroleum Co., Frankell	SW Sec. 2, Blk. 8, T. & N. O. R. R., Stephens Co.	Absp.	3,000
Phillips Petroleum Co., Frankell	12 A. Sec. 63, Blk. 4, T. & P. R. R. Sur., Stephens	Charc.	3,000
Phillips Petroleum Co., Frankell	NW NW Sec. 69, T. & P. R. R., Blk. 6, Stephens Co.	Charc.	4,000
Phillips Petroleum Co., Eliasville	6.88 A. N. half Sur. 1,174 T. E. & L., Stephens Co.	Absp.	7,000
Phillips Petroleum Co., Eliasville	NE NE, Sec. 1,039 T. E. & L., Stephens County	Absp.	1,000
Phillips Petroleum Co., Borger	SW Sec. 113, I. & G. N. R. R., Blk. 5, Carson County	Absp.	17,000
Phillips Petroleum Co., Borger	SE cor. Mary Whittley Sur., Blk. 8, Hutchinson Co.	Absp.	41,000
Phillips Petroleum Co., Borger	Cen. 60 A. 5½ Sec. 69, Blk. 46, H. & T. C. Sur., Hutchinson County	Absp.	40,000
Phillips Petroleum Co., Borger	NE SE Sec. 21, Blk. Y, A. B. Sur., Hutchinson Co.	Absp.	40,000
Phillips Petroleum Co., Borger	NW SE Sec. 1, Blk. X-02, Hutchinson County	Absp.	40,000
Red River Oil Co., Electra	Electra	Comp.	2,200
Roxana Petroleum Corp., Pampa	Blk. 3, I. & G. N. Sur., Sec. 83, Gray County	Absp.	9,000
Roxana Petroleum Corp., Panhandle	Blk. 5, Morrison-Commers Sur., Sec. 11, Hutchinson County	Absp.	1,500
Signal Gasoline Co., Best	Big Lake	Absp.	15,000
Silurian Oil Co., Burkburnett	NE part Morris May Sur. No. 8 and G. C. & S. F. R. R. Co. Nos. 5 and 6, Wichita County	Comp.	1,300
Simms Oil Co., Dallas	Olney	Comp.	2,000
Sinclair Oil & Gas Co., Box 875, Burkburnett	Hadden Sur., Wichita Co.	Comp.	6,000
Skelly Oil Co., Burkburnett	J. W. Hardin Sur. Wichita County	Comp.	11,500
Skelly Oil Co., Coleman	J. W. Hicks Sur., Coleman County	Charc.	1,500
Skelly Oil Co., Whittenburg	Hutchinson Co. (3 plants)	Charc.	37,500
Skelly Oil Co., Whittenburg	Hutchinson Co. (2 plants)	Absp.	24,000
Skelly Oil Co., Kingsmill	Carson County	Absp.	20,000
Southern Gasoline Co., Ranger	Tiffin	Absp.	2,500
Smith-Hanlon, Tulsa, Okla.	Eliasville	Absp.	8,000
Smith-Hanlon, Tulsa, Okla.	Breckenridge	Absp.	10,000
Straits Gasoline Co., Breckenridge	Eastland	Absp.	2,500
Texas Company, The, Olney	2½ mi. NE Olney	Comp.	14,430
Texas Company, The, Electra	½ mi. NW Electra	Comp.	19,278
Texas Company, The, Burkburnett	3 mi. NW Burkburnett	Comp.	33,964
Tex. Pacific C. & O., F. & M. Bldg, Ft. Worth	Caddo (2 plants)	Absp.	20,000
Tex. Pacific C. & O., F. & M. Bldg, Ft. Worth	Mingus	Absp.	2,000
Tex. Pacific C. & O., F. & M. Bldg, Ft. Worth	Eliasville	Absp.	20,000
Tidal-Western Oil Corp., Burkburnett	Blk. 98, NW Extension	Comp.	15,000
Tidal-Western Oil Corp., Burkburnett	¼ mi. So. of Burkburnett	Comp.	15,000
Transcontinental Oil Co., Tulsa, Okla.	Sec. 14, Blk. 4, Palo Pinto	Comp.	*1,000
Transcontinental Oil Co., Tulsa, Okla.	Block 4, Limestone County	Charc.	5,000
Waggoner Refining Co., Electra	Electra	Absp.	5,000
Western Oil Corp. of Texas, Wichita	4 mi. So. of Electra, Wichita County	Absp.	9,000
Western Oil Corp. of Texas, Wichita	5 mi. west of Iowa Park, Wichita County	Comp.	1,200
Wilcox, H. F., Oil & Gas, Tulsa, Okla.	Sec. 62, Blk. 3, I. & G. N., Sur., Gray County	Absp.	12,000

*Shut down. †Building.

Tulsa Boiler & Machinery Company

Welcomes you to Tulsa

While attending the convention of the Association of Natural Gasoline Manufacturers, inspect our booth at the Permanent Industrial Exhibit, 307-309 South Cincinnati Avenue, Tulsa.

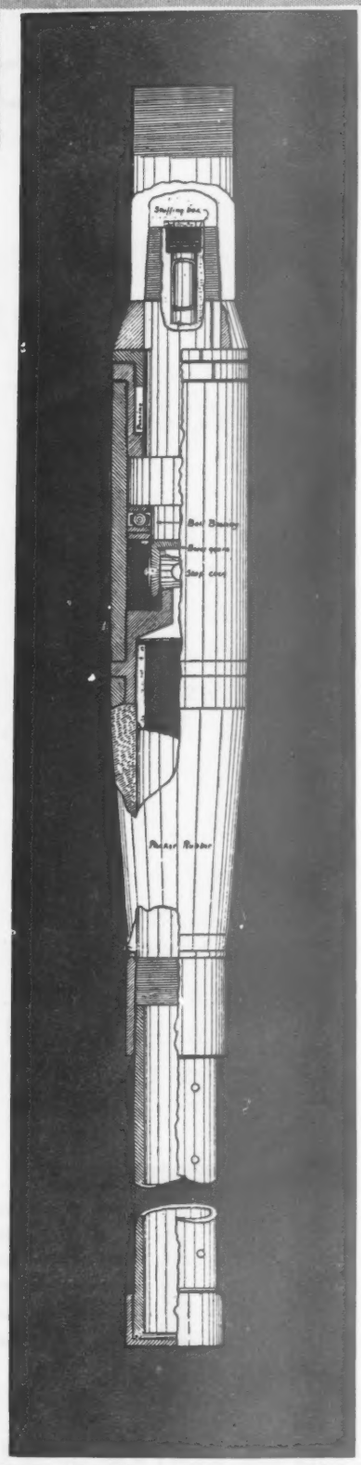
Visit our plant, South Union Avenue, West Tulsa, Oklahoma, and let us show you the modern high efficiency equipment turned out in these shops located in the very heart of the Mid-Continent.

TULSA TYPE

TULSA BOILER & MACHINERY CO.

P. O. Box 1963 TULSA, OKLAHOMA

Makes Wildcat Safe for



Halliburton Sand Tester Necessity

One of the chief drawbacks to rotary drilling is the difficulty of testing sands as they are encountered—the danger of passing up and mudding off a producing sand.

Now this drawback has been overcome. The Halliburton Sand Tester enables you to test every sand as it is met. It tells you exactly what you can expect of it. It removes all danger of passing up production.

What the Tester is and How it Works

The Halliburton Sand Tester consists essentially of a tapered packer below which is a perforated pipe which, when the Tester is in place, extends into the "rat hole" of the well. Above the packer is a steel encased stop-cock which is opened or closed by a quarter turn of the pipe. The tester is run in with the cock closed, thus keeping the pipe dry. The cock is opened only after the packer has been seated and the perforated pipe is in the "rat hole." The same condition now exists as if casing had been set and the hole bailed.

If gas is encountered, it blows through the drill pipe and if fluid is present it flows into the drill pipe, where it is held prisoner by the stop-cock which is closed before the pipe is removed. When

ERLE P. H

HALLIBURTON

Drilling ROTARY TOOLS

ester Gives Open-Flow Test—Eliminates of Setting Casing to Test

oil or salt water are withdrawn with the drill pipe, especially if thirty or forty joints are taken out, the gas causes the oil or salt water to flow by heads when stands of pipe are removed, giving positive evidence of the fluid in the sand.

An Accurate Test in Two Hours

The Halliburton Sand Tester is allowed to remain seated from fifteen to forty-five minutes. This interval, plus the round trip, consumes about two hours—a small period compared to the time required to set casing and bail out.

Typical Instances of Advantages

An operator who had about decided to set casing 400 feet from bottom because of the presence of four sands, tested the two upper sands and found them unproductive. He was able to set casing lower, reducing the possibility of cave-in.

Another operator, drilling an offset well, set pipe and bailed out the hole only to find it unproductive. He could have saved the price of setting casing.

Core Not Always a Dependable Indication

In still another instance, a well revealed a fine looking core. To all who saw it, it indicated an excellent producer. A test showed the sand held salt water only. Considerable expense was saved.

Another well was tested with the Halliburton Tester and found dry. The core looked good and the operator, not being satisfied, set casing. After cementing and bailing out, the sand proved nonproductive, proving tester to have been correct. Here again, thousands could have been saved.

These are just a few instances, taken at random. Our experience files show many others—producing wells made from sands thought unproductive; strings of casing saved on wells proved unproductive.

> The Halliburton Sand Tester removes guess work from rotary drilling. It enables you to use rotary with absolute safety in wildcat territory.

Experienced men with sand testers are stationed in the various fields and tests can be made promptly by getting in touch with the Duncan office of this organization. For prices and further details, write

ALLIBURTON COMPANY
NCAN, OKLAHOMA

SAND TESTER

WEST VIRGINIA

Company and Plant Address—	Plant Location—	Type of Plant	Daily Capacity Gallons
Ambler Oil Co., St. Marys	Pleasants County	Comp.	100
American Oil Development Co., Indian Creek	Tyler County	C-A	1,370
American Oil Development Co., Wick	Tyler County	Comp.	125
American Oil Development Co., Cave Run	Pleasants County	Comp.	114
American Oil Development Co., Givens	Pleasants County	Comp.	22
Carbide & Chemicals Corp., New York, N. Y.	Big Sandy Dist. Kanawha	Comp.	1,600
Carnegie Natural Gas Co., Hundred	Church Dist. Wetzel Co.	Absp.	3,100
Carnegie Natural Gas Co., Pine Grove	Pine Grove	Absp.	1,080
Carnegie Natural Gas Co., Underwood	Underwood	Absp.	2,040
Casto Oil Co., Harrisville	Ritchie County	Comp.	300
Casto Oil Co., St. Marys	Pleasants County	Comp.	250
Chalmers Oil & Gas Co., Pennsboro	Bunnells Run	Comp.	55
Chemical Oil & Gas Co., Big Bend	Sherman Dist. Calhoun Co.	Comp.	750
Colonial Oil Development Co., Parkersburg	Tyler County	Comp.	75
Creek Oil Co., St. Marys	H. L. Bailey Farm	Comp.	150
Dinsmoor & Co., St. Marys	Pleasants County	Comp.	50
Dinsmoor & Co., St. Marys	Pleasants County	Comp.	125
Dinsmoor Bros, St. Marys	Pleasants County	Comp.	50
Dunn-Mar Oil & Gas Co., Rt. 3, Fairview	Clay Dist. Monongalia Co.	Comp.	90
Easter Oil Co., St. Marys	Fifty Heirs Farm	Comp.	250
Falling Rock Cannel Coal Co., Charleston	Weir	Absp.	5,000
Federal Oil & Gas Co., Parkersburg	Burning Spgs. Dist., Wirt.	Comp.	250
Gallagher & West, St. Marys	Pleasant County	Comp	25
Glenn, S. B., St. Marys	Henry's Camp	Absp.	50
Grow, O. E., Williamstown	Plum Run Field Wood Co., Tim McAtee farm	Comp.	10
Hannigan & Hanlon, West Union	Arnolds Creek	Comp.	500
Henaghan & Hanlon, Sistersville	Bond Creek (5)	Comp.	720
Henderson Oil Co., Marietta, Ohio	Big Run Field Wood Co., J. T. Johnson farm	Comp.	10
Hope Construction & Refining Co., Pittsburgh	Anshutz	Comp.	400
Hope Construction & Refining Co., Pittsburgh	Bristol	Absp.	7,000
Hope Construction & Refining Co., Pittsburgh	Cornwell	Absp.	6,000
Hope Construction & Refining Co., Pittsburgh	Ellesboro	Absp.	*600
Hope Construction & Refining Co., Pittsburgh	Farmington	Absp.	16,000
Hope Construction & Refining Co., Pittsburgh	Garry Owen	Comp.	1,000
Hope Construction & Refining Co., Pittsburgh	Goff	Absp.	*5,000
Hope Construction & Refining Co., Pittsburgh	Hastings	Absp.	45,000
Hope Construction & Refining Co., Pittsburgh	Pole Cat	Comp.	1,500
Hope Construction & Refining Co., Pittsburgh	Waverly	Absp.	5,000
Hope Construction & Refining Co., Pittsburgh	Littleton	Absp.	16,000
Hope Construction & Refining Co., Pittsburgh	Foreman	Absp.	3,500
Hope Construction & Refining Co., Pittsburgh	Wood	Comp.	400
Hope Construction & Refining Co., Pittsburgh	Wright	Absp.	10,000
Hope Natural Gas Co., Littleton	Weizel County	Absp.	5,000
Hudson Oil Co., Parkersburg	Cornwallis	Comp.	150
Huntington Development & Gas Co., Huntington	Sheridan Dist. Lincoln Co.	Char.	5,000
Imperial Oil & Gas Products Co., Pittsburgh	Harrisville	C-A	2,000
Kanawha Oil Co., Jacksonburg	Buffalo Run	Absp.	1,600
Kanawha Oil Co., Jacksonburg	Buffalo Run	Comp.	100
Manufacturers Light & Heat Co., Rosebys Rock	Marshall County	Absp.	2,400
Manufacturers Light & Heat Co., Porters Falls	Wetzell County	Absp.	5,600
Manufacturers Light & Heat Co., Wallace	Doddridge County	Absp.	*2,250
McKelvey Oil & Gas Co., Sistersville	Sisterville	Comp	150
Monongahela West Penn Public Service Co., Fairmount	Elk (4)	C-A	5,000
Monongalhela West Penn Public Service Co., Fairmount	Underwood	Absp.	3,000
New Martinsville Oil Co., Clarkesburg	Green	Comp	125
N. Y. Petroleum Co., Parkersburg	Rutherford	Comp.	200
Oakdale Oil and Gas Co., Oakdale, Pa.	Church	Absp.	800
Ohio Fuel Oil Co., Sloffel	Elk District	Absp.	1,000
Ohio Fuel Oil Co., Charleston	Blue Creek	Comp.	1,050
Ohio Fuel Oil Co., Charleston	Schroeder	Comp.	2,400
Ohio Fuel Gas Co., Pad	Hammack No. 7	Absp.	700
Oil & Gas Co., St. Marys	St. Marys	Comp.	600
Pittsburgh & West Virginia Gas Co., Hundred	Wetzel County	Absp.	1,800
Pure Oil Co., Dawes	Kanawha County	C-A	10,000
Pure Oil Co., Sistersville	Tyler County	Comp.	300
Reed, C. S., Williamstown	Plum Run Field, Wood County C. S. Reed farm	Comp.	5
Reno Oil Co., Sistersville	Tyler County (5)	Comp	350
Reno Oil Co., Sistersville	Ritchie County (2)	Comp.	150
Reserve Gas Co., Pittsburgh	Camden	Absp.	13,000
Reserve Gas Co., Pittsburgh	Corrin	Absp.	6,000
Reserve Gas Co., Pittsburgh	Kennedy	Absp.	20,000
Reserve Gas Co., Pittsburgh	Wilsonburg	Absp.	6,000
Richwood Oil Co., Jacksonburg	Richwood Run	Absp.	150
Salem Gasoline Co., Salem	East Salem	Absp.	2,000
Sellers & Dinsmoor, St. Marys	W. H. Shingleton farm	Comp.	150
Southern Oil Co., Marietta	Eureka	Comp.	50
Southern Oil Co., Marietta	MacFarlan	Comp.	900
Southern Oil Co., Marietta	Porters Falls	Comp.	150
Southern Oil Co., Marietta	Sistersville	Comp.	300
South Penn Oil Co., Pittsburgh	Blackshere	Comp.	
South Penn Oil Co., Pittsburgh	Bula	Comp.	
South Penn Oil Co., Pittsburgh	Carpenter	Comp.	
South Penn Oil Co., Pittsburgh	Copley	Comp.	
South Penn Oil Co., Pittsburgh	Diamond	Absp.	
South Penn Oil Co., Pittsburgh	Edgell	Comp.	
South Penn Oil Co., Pittsburgh	Fairview	Comp.	
South Penn Oil Co., Pittsburgh	Folsom	Comp.	
South Penn Oil Co., Pittsburgh	Fink	Comp.	
South Penn Oil Co., Pittsburgh	Freeport	Comp.	
South Penn Oil Co., Pittsburgh	Griffith	C-A	
South Penn Oil Co., Pittsburgh	Hammock	Comp.	
South Penn Oil Co., Pittsburgh	Hartley	Comp.	
South Penn Oil Co., Pittsburgh	Hawkins	Comp.	
South Penn Oil Co., Pittsburgh	Langfit	Comp.	
South Penn Oil Co., Pittsburgh	Lynch	Comp.	
South Penn Oil Co., Pittsburgh	Madison	Comp.	
South Penn Oil Co., Pittsburgh	Metz	Comp.	
South Penn Oil Co., Pittsburgh	Morgan	Comp.	
South Penn Oil Co., Pittsburgh	Pinch	Comp.	
South Penn Oil Co., Pittsburgh	Pine Grove	Comp.	
South Penn Oil Co., Pittsburgh	Rock Creek	Comp.	
South Penn Oil Co., Pittsburgh	Seckman	Comp.	
South Penn Oil Co., Pittsburgh	Shinnston	Comp.	
South Penn Oil Co., Pittsburgh	Stringtown	Comp.	
South Penn Oil Co., Pittsburgh	Sweeney	Comp.	
South Penn Oil Co., Pittsburgh	Tanner	Comp.	Capacity
South Penn Oil Co., Pittsburgh	Tariff	Comp.	all plants
South Penn Oil Co., Pittsburgh	Victor	Comp.	35,000
Sterling Gasoline Corp., Charleston	Morgantown	Absp.	1,000
Sutton Bros., New Cumberland	L. Gardner farm, Hancock County	Comp.	150
Transcontinental Oil Co., Fallensbee	Bethany Pike, Brook Co.	Comp.	200
Transcontinental Oil Co., Charleston	Blue Creek	Comp.	300
Treat, E. M., Oil Co & Gas Co., Pennsboro	Ritchie County	Comp.	150
Tuel & Thoenen, Sistersville	Sistersville (3)	Comp.	600
Tyler Oil Co., Sistersville	Tyler County (3)	Comp.	250
United Fuel Gas Co., Bomont	Union Dist. Clay Co.	Comp.	550
Viking Gasoline Corp., Charleston	Morgantown	Absp.	1,000
Viking Oil Products Co., Charleston	Katy	Absp.	1,200
Viking Realty Co., Charleston	Martha	Absp.	300
Virginian Gasoline & Oil Co., Charleston	Big Sandy	Comp.	1,200
Virginian Gasoline & Oil Co., Charleston	Big Sandy	Absp.	18,000
Virginian Gasoline & Oil Co., Charleston	Elk District	Char.	25,000
Virginian Gasoline & Oil Co., Charleston	Jefferson	Char.	3,500
Virginian Gasoline & Oil Co., Charleston	Cabin Creek (2)	Comp.	5,000
Virginian Gasoline & Oil Co., Charleston	Grant District	Absp.	18,000
Virginian Gasoline & Oil Co., Charleston	Union District	Comp.	1,500
Virginian Gasoline & Oil Co., Charleston	Ravenswood	Char.	40,000
Virginian Gasoline & Oil Co., Charleston	Butler	Char.	3,500
Virginian Gasoline & Oil Co., Charleston	Loudon	Char.	2,000
Virginian Gasoline & Oil Co., Charleston	Spencer	Char.	10,000
Virginian Gasoline & Oil Co., Charleston	Elk	Absp.	1,500
Walker Oil Co., Parkersburg	Pentacre	C-A	1,500
Wasmuth & Callahan Oil Co., Glendale	Union Dist., Marshall Co.	Comp.	15
Watson, G. L, Parkersburg	Belmont	Comp.	50
West Virginia Consolidated Oil Co., Parkersburg	Porters Falls	Comp.	100
Wiser Oil Co., Sistersville	Roane County	Comp.	500
Woodruff Natural Gas Co., Woodruff	Woodruff	Absp.	1,020

*Shut down.

WYOMING

Company and Plant Address—	Plant Location—	Type of Plant	Daily Capacity Gallons
Carter Oil Co., Tulsa, Okla.	Salt Creek	Absp.	15,000
Continental Oil Co., McFadden	Carbon County	Absp.	6,000
Midwest Refining Co., Casper	Salt Creek	Comp.	75,000
Midwest Refining Co., Casper	Elk Basin	Comp.	*
New York Oil Co., Casper	Teapot Dome Naval Reserve No. 3	Comp.	2,000
Ohio Oil Co., Grass Creek	Sec. 98-19	Comp	8,000
Ohio Oil Co., Columbine	Sec. 79-12	Absp.	14,400
Ohio Oil Co., Lusk	Sec. 65-35	Absp.	7,500
Producers & Refiners Corp., P. O. Box 1739, Casper	Sec. 7-33n-79w	Absp.	10,000
Standard Engineer, Casper	Casper	Absp.	2,500

*Shut down.

NATURAL GASOLINES IN STANDARDIZATION

(Continued from Page 103)

standpoint. A uniformity of quality should be made all essential and is not only of importance in the refineries of any particular location or company but to the country as a whole, so much as it is practicable. A standard make of automobile purchased in the East will have the same kind of a motor and will operate the same as another car of that make purchased in the West so long as they are supplied the same type of fuel. There isn't that same standardization in motor fuels. Some of the larger companies are attempting to standardize their gasolines throughout their marketing territories, but these usually cover only a small part of the entire United States.

For this reason all carburetors are constructed to allow for adjustments over a wide range. This is not inducive to efficiency as the average driver does not take the time or is not mechanically inclined enough to adjust it properly. On first thought a standardization of motor fuels might appear to work to the disadvantage of the refining industry by decreasing the consumption by savings in a greater number of miles per gallon by the consumer, but the effect of a standardization program has always been to increase the use of the commodity out of proportion to any loss taken on the unit. The savings to the refiner in not having to carry from three to ten kinds of gasoline for ready shipment and alter his operations from day to day to meet different specifications would be large.

Government Specifications

The Government has established a set of very reasonable specifications for motor fuel so far as guaranteeing a good motor fuel is concerned but there is no agreement in what is the best gasoline. By this is meant one that gives the greatest amount of power to the average motor most economically. One school of thought has been based on utilizing the higher thermal properties of the heavier gasolines as a means of attaining this, while the opposite thought has been to supply a preponderance of low boiling point fractions that will readily vaporize, giving the gasoline greater speed in acceleration and easier starting. A correct balancing of these factors would be ideal and although some pet ideas would probably have to be sacrificed and certain sales talks contradicted, a standardization program could be worked out on the basis of the distillation curve leaving other specifications to differ. At least, this would serve as a beginning to a standardization program, and would cover the most vital difference.

Blending Agent

In making the program practicable, a balancing material is needed so that by blending various amounts, all refinery gasolines may be made to have the same distillation curve, within practical limits. Natural gasoline is the logical material to be used and as the various grades of natural gasoline have been well standardized it is an easy matter to determine the amount of any grade to add to the refinery gasoline to meet the lower portion of the standardized curve. As the operations of the refinery can be adjusted to make gasoline having any endpoint with close agreement in the other fractions in the upper portion of the curve there would be few operating difficulties in following out such a program. As an example of the effect of the addition of natural gasoline to the ordinary blend of straightrun and cracked gasolines, curves are shown in the accompanying chart. The distillation curve marked (B) is that of a representative blend of straightrun and cracked gasoline in their natural proportions of production while (A) is the distillation curve of the assumed standard gasoline. The addition of 14 per cent AA natural gasoline to the refinery gasoline will produce a blend the distillation curve of which will lie on the curve of the standard gasoline. These curves were drawn from the following data.

Distillation Tests

	Refinery Gasoline Deg. F	Assumed Standard Gasoline Deg. F.
I. P.	120	100-110
10%	195	160-170
20	230	200-210
30	260	230-240
40	281	260-270
50	320	290-300
60	324	315-325
70	245	340-350
80	370	365-375
90	395	390-400
E. P.	437	437 Max

This example and set of assumed standard specifications were intended merely to show the part natural gasoline plays in the every day blending at the refineries and is not intended to picture what the standard gasoline should be. A variety of opinions exists on the amount of the heavier hydrocarbons that should be included in the gasoline. Some advocate lower endpoint gasolines as the best, pointing to their greater volatility. Others say the present gasolines are sufficiently volatile while others agree that greater volatility is needed but instead lowering the endpoint, adds more than the usual amount of natural gasoline and makes the finished blend a 60-62, 437 end point gasoline. The varying cost of natural gasoline determines the differential in price between these and the regular 58-60, 437 endpoint gasoline and at times when natural gasoline is materially lower in price than U. S. Motor gasoline, this practice becomes particularly atractive to the jobbers in making a supposedly cheaper gasoline with better quality but unless the blending is done in large quantities and special equipment used, the losses will often exceed the expected profits. The combined losses in transit, unloading, blending and storing any excess will mount surprisingly high and in the summer months may exceed 20 per cent. Tbis loss together with the additional equipment and control needed will usually more than take up the differential between the cost of the refinery blend and the cost of the finished blend of the marketer. Certainly, the refiner should be able to blend more economically and can supply a more uniform quality.

STORAGE IN GUADELOUPE

The New Trinidad Petroleum Co. has obtained a concession on the waterfront of Pointe-a-Pitre for the building of gasoline and kerosene tanks; hereafter petroleum products coming from Trinidad and Curacao to the local agents of the company will be brought in drums and emptied into the company's land reservoirs. Six gasoline distributing pumps have already been supplied to the local agency and are being loaned to exclusive dealers. As a result of the new installation the company announces that it will be in a position to lower prices. In the past three years the "Shell" gasoline and kerosene supplied by this company represent 44.3 per cent and 28.7 per cent respectively of the total supply of these products to Guadeloupe.

Are you securing The Maximum Revenue from your Natural Gasoline Plants?

THE USE of The Gasoline Stabilizer assures increased production and improved quality at very low cost to the producer.

The proper equipment for your individual plant is determined by our engineers—without cost to you. They also determine the approximate increased production which will result from the use of the Stabilizer.

The Carbide and Carbon Chemicals Corporation maintains a complete field organization—Sales, Engineering and Laboratory—in the Mid-Continent Field and upon the Pacific Coast. These representatives will gladly consult with you about the use of The Gasoline Stabilizer and the merits of stabilized gasoline.

Information about the satisfactory performance of the Stabilizers now in operation and the probable increased revenue from your particular gasoline plant will be promptly furnished.

CARBIDE AND CARBON CHEMICALS CORPORATION

General Offices
CARBIDE AND CARBON BUILDING
30 East 42d Street New York City

Mid-Continent Field
EXCHANGE NATIONAL BANK BLDG.
Tulsa, Oklahoma

Pacific Coast
ADAM GRANT BUILDING
San Francisco, California

CHAR process

—Of Gasoline Recovery—

The story in a nut shell

Activated Coconut Charcoal is the *BEST ABSORBENT* for Natural Gasoline.

Charcoal plants are *MORE EFFICIENT*. That's "the story in a nutshell."

[*For the details of the story write or wire our nearest office.*]

GASOLINE RECOVERY CORPORATION

Charleston, W. Va.

TULSA
423 Wright Bldg.

LONG BEACH
Box 321

COAL

Personnel of Natural Gasoline Industry

Following is a list of companies owning and operating one or more natural gasoline plants. The list does not include a few oil producing companies which do not maintain organizations to operate small natural gasoline plants the output of which in most cases is mixed with crude and not sold as a finished product. Elsewhere in this issue will be found a list by states of all the natural gasoline plants in the United States including the name of the company, plant location, type of plant and capacity.

Company and General Office Address—	No. Plants	Gallons Dy.Cap.	President	Vice Presidents	Secretary	Treasurer	General Manager	Sales Manager	General Supt. of Plants
A. C. F. Gasoline Co., 808 S. Cheyenne, Tulsa, Okla.	1	750	N. V. V. Franchot	J. J. Heberle	D. W. Franchot	D. W. Franchot		C. L. Tracy	J. E. Bumpus
Akin Gasoline Co., The, 503 Exchange Natl. Bank Bldg., Tulsa, Okla.	2	1,200	J. H. McCoy	J. D. Dinsmoor	L. E. Dinsmoor	H. R. Johnson	H. R. Johnson	R. R. Rosier	W. C. Hasseberg
Allegany Gas Co., Mill St., Port Allegany, Pa.	1	400	R. P. Stevens	W. H. Richards*	H. M. Billingsley	E. W. Freeman	W. H. Richards		J. W. Farner
Altitude Petroleum Co., Tulsa Trust Bldg., Tulsa, Okla.	1	3,000	I. Arthur Anson	M. Lloyd Freese	Jesse Finston	Jesse Finston		C. H. Warner, Jr.	C. R. Childs
Amerada Petroleum Corp., Petroleum Bldg., Tulsa, Okla.	11	123,500	E. L. DeGolyer	A. Jacobsen*	Robert Nock	H. J. Carr	J. M. Lovejoy		M. E. Mockley
American Gasoline Corp., 911 Chapman Bldg., Los Angeles, Calif.	4	22,000	E. E. Peacock	Frank W. Royer*	E. P. Warner				D. M. Corson
American Development Co., of W. Va., 1414 Oliver Bldg., Pittsburgh, Pa.	9	2,501	Theodore A. Tack	Harry S. Tack	Willis H. Siegfried	Augustus V. Tack	Harry S. Tack		John Hays
American Refining Co., Inc., City Natl. Bank Bldg., Wichita Falls, Tex.	1	2,000	W. M. Priddy	N. B. Chenault*	H. H. Wade	H. H. Wade		H. A. Allen	Earl Estep
Arab Gasoline Corp., Exchange Natl. Bank Bldg., Eastland, Tex.	1	18,000	Samuel Butler	P. T. Sharples	W. E. Cox	W. E. Cox	Horace Butler	K. B. Tanner	Franklyn Dwyer
Arkansas Fuel Oil Co., Benedum-Trees Bldg., Pittsburgh, Pa.	4	14,500	J. C. Trees	A. B. Daily, Jr.*	W. J. Diehl	W. J. Diehl	A. F. Holliday		H. B. Hickman
Associated Producers Co., 11 Broadway, New York	2	1,700	M. P. Williams	Robert McKelvy	M. A. Taylor	F. A. Marsellus			W. S. Corwin
Associated Producers Co., Rule Bldg., Amarillo, Tex.	1	25,000	J. F. Patterson	R. A. Burnett	J. C. McDonald	J. C. McDonald			C. F. Ward
Atlantic Oil Producing Co., Magnolia Bldg., Dallas, Tex.	3	14,800					E. H. Blum		J. H. Stewart
Atlas Oil Co., Clarion, Pa.	1	.....	Not incorporated				J. H. Isherwood		
Aztec Oil Co., 210 Mid-Continent Bldg., Tulsa, Okla.	3	9,000	W. H. Gray		C. H. Zachry	C. H. Zachry	Charles A. Coakley	C. H. Zachry	R. H. Kirkland
Banks Oil & Gas Co., Burgettstown, Pa.	1	100	Partnership company			T. G. Banks	R. B. Helm		
Barco Gasoline Co., 1447 S. Peoria, Tulsa, Okla.	2	3,000	Thomas Chestnut	R. A. Koons	J. L. Goddard	M. F. Powers	R. A. Koons	R. A. Koons	J. H. Archer
Barnsdall Oil Co., Petroleum Bldg., Tulsa, Okla.	10	44,200	E. B. Reeser	R. F. MacArthur*	L. D. Messner	E. O. Bartlett	R. F. MacArthur	H. L. Hughes	A. J. Schlosser
Berlin, J. C., & Son, Knox, Pa.	1	50							
Brackenridge Gasoline Co., The, 2313 Madison Ave., Toledo, Ohio	1	10,000	A. S. Close	John G. Dorn	A. S. Hickok	A. S. Hickok		A. S. Close	R. L. Ponsler
Brooks & Hanlon, Inc., Seventh and Cheyenne Sts., Tulsa, Okla.	1	32,000	E. I. Hanlon	T. K. Smith	J. H. Boyle	D. E. Buchanan		A. F. Wood	F. H. Yonker
Brundred Gasoline Co., Chambers Bldg., Oil City, Pa.	1	1,000	W. J. Brundred		H. D. Brown	A. C. W. Smith			G. E. Exley
Bryan, Phelps & Ilseng, 1507 F. & M. Bldg., Fort Worth, Tex.	1	15,000	Tom Bryan	Frank Phelps		A. G. Ilseng		Tom Bryan	Tom Bryan
Burgess Gasoline Co., Nowata, Okla.	1	1,000			J. J. Riner	J. J. Riner	Matt McCormick		C. T. Swaim
California Gasoline Co., 836 Security Bldg., Los Angeles, Calif.	12	151,500	Jacques Vinmont	R. E. Bering*	D. E. O'Brien	W. D. Stewart	J. E. Hare	E. G. Starr	H. W. Parmelee
Calumet Oil Co., 517 I. W. Hellman Bldg., Los Angeles, Calif.	1	600	J. E. Wallis	A. J. McDermott*	W. F. Staunton	W. F. Staunton	J. E. Wallis		J. C. Armstrong
Cannon Gasoline Co., 110½ W. Fifth, Amarillo, Tex.	1	5,000	J. J. Hastings	F. J. Storm	J. B. Dooley	F. J. Storm		F. J. Storm	J. J. Hastings
Carnegie Natural Gas Co., Frick Bldg. Annex, Pittsburgh, Pa.	2	5,598	S. W. Meals		J. J. Campbell	H. E. Jeffries	H. J. Hess		
Carpenter, M. A., Karns City, Pa.	1	50	Individual operator						
Carson Carbon Co., The, P. O. Drawer 880, Cincinnati, Ohio	1	1,500	J. B. Hawley	C. A. Mansell	Bromwell Ault	Charles A. Aills		C. V. Teegerstrom	C. V. Teegerstrom
Carter Oil Co., The, Exchange Natl. Bank Bldg., Tulsa, Okla.	9	221,000	R. M. Young	W. T. Funk	J. L. Cluley	J. L. Cluley	J. J. Conry		George E. Edgett
Casto Oil Co., St. Marys, W. Va.	2	550	Partnership				Ira Williams	Ira Williams	T. A. Wilson
Chesney Gasoline Co., Box 857, Okmulgee, Okla.	1	500	Charles Chesney						
Chestnut & Smith Corp., Seventh and Cheyenne Sts., Tulsa, Okla.	6	122,000	T. K. Smith	E. I. Hanlon	J. H. Boyle	C. F. Quinlan		A. F. Wood	F. G. Yonker
Clinger Oil & Gas Co., Tidioute, Pa.	2	1,500				W. F. Clinger			
Cochran, John G., & Co., Sheffield, Pa.	1	700					John G. Cochran		
Coltexo Corp., 45 E. 42d St., New York	1	2,000	F. F. Curtze	Edwin Binney	Reid L. Carr	George L. Bubb		W. H. Anders	W. E. Reardon
Columbian Gasoline Corp., 45 E. 42d St., New York	9	81,000	F. F. Curtze	Edwin Binney	Reid Carr	G. L. Bubb	H. H. Reardon	W. H. Anders	W. E. Reardon
Comar Gasoline Co., Shell Bldg., St. Louis, Mo.	4	51,000	T. F. Lydon	G. C. Shallenberger	P. R. Chenowith	P. R. Chenowith		G. G. Woodruff	G. S. Rollin
Consolidated Gasoline Co., 2313 Madison Ave., Toledo, Ohio	1	16,000	C. B. Eddy	A. S. Hickok	A. S. Close	A. S. Hickok		A. S. Close	R. L. Ponsler
Continental Oil Co., Continental Oil Bldg., Denver, Colo.	1	6,000	S. H. Keoughan	W. H. Ferguson	H. P. Ferree	G. F. Smith	H. E. Simcox	L. R. Milne	L. K. Finney
Continental Oil Co. of Texas, Hamilton Bldg., Wichita Falls, Tex.	3	8,500	S. H. Keoughan	W. H. Ferguson*	H. P. Ferree	G. F. Smith		T. H. Lawson	B. F. Lawley
Cook Oil Lease, Kettyville, Pa.	1	500	E. S Collins (Owner)				F. R. Klinestiver	F. R. Klinestiver	F. R. Klinestiver
Cowan Oil & Refining Co., 514 Merchants Natl. Bank Bldg., Los Angeles, Calif.	1	10,000	F. P. Hughes	R. W. Stephens	W. G. Howard	W. G. Howard	John A. Arnold		
Crown Central Petroleum Corp., Post Dispatch Bldg., Houston, Tex.	1	2,000	W. A. Williams	M. C. Ehlen	R. H. Lindsey	N. N. Olle		J. Stickel	J. W. White
Cumberland Gasoline Corp., 1524 Hanna Bldg., Cleveland, Ohio	1	5,000	M. A. Monaghan	M. H. Rourke	C. J. Weideman	C. J. Weideman	J. G. Schwartz	J. E. Jones	J. G. Swartz
Cushing Refining & Gasoline Co., Cushing, Okla.	2	18,000	E. C. Mullendore	E. J. Blank	R. H. Winget	R. C. Jones	Rex H. Winget	E. O. Derrick	E. C. Smith
Daugherty, C. E., & Co., Box 164, Owensboro, Ky.	1	150					C. E. Daugherty		
Daugherty, C. R., & Co., Y. M. C. A. Bldg., Butler, Pa.	3	190					C. R. Daugherty		
De Soto Gasoline Co., P. O. Box 1791, Houston, Tex.	2	1,500	H. C. Wiess	P. B. Flynn*	J. G. Whitehurst	J. G. Whitehurst	P. B. Flynn	P. B. Flynn	P. B. Flynn
Devonian Oil Co., Box 1441, Tulsa, Okla.	4	17,500	J. H. Evans	A. W. Leonard	George D. Foster	L. C. Ritts	A. W. Leonard		E. S. Calvert
Diamond Refining Co., Southwest Blvd. and State Line, Kansas City, Mo.	3	4,400	B. E. Bush	Walter Mitchell*	Thomas E. Elliott	B. E. Bush		L. C. Hickox	Thomas E. Elliott
Dixie Oil Co., Inc., Slattery Bldg., Shreveport, La.	1	10,000	F. H. Wickett	N. M. Hancock	F. T. Graham	C. J. Barkdull	A. M. McCorkle	A. M. McCorkle	E. J. Goldman
Dixon Creek Oil Co., Amarillo Bldg., Amarillo, Tex.	2	27,000	S. D. McIlroy	W. W. McIlroy	G. W. Pennington				C. St. Clair
Eagle-Picher Lead Co., The, 134 N. La Salle St., Chicago, Ill.	1	5,000	John B. Swift	F. Hertenstein*	Jos. Hummel, Jr.	A. E. Bendelari		W. N. Corbet	W. N. Corbet
East Ohio Gas Co., The, East Ohio Gas Bldg., Cleveland, Ohio	1	1,500	R. W. Gallagher	Christy Payne	R. W. Brink	R. W. Brink	R. W. Gallagher		J. G. Hanks
East Ohio Producing & Refining Co., East Ohio Gas Bldg., Cleveland, Ohio	1	6,000	R. W. Gallagher	Christy Payne	R. W. Brink	R. W. Brink	R. W. Gallagher		
Elm Oil Co., Chestnut & Smith Bldg., Tulsa, Okla.	1	300	C. P. Quinlan	A. D. Blackard	J. L. Goddard	J. L. Goddard			
Empire Gas & Fuel Co., Ltd., Wellsville, N. Y.	1	500	Harry Bradley			George H. Bradley	Harry Bradley		Guy Harder
Empire Gasoline Co., Masonic-Empire Bldg., Bartlesville, Okla.	17	198,300	Henry L. Doherty	H. R. Straight*	C. E. Murray	D. W. Harris	E. L. Peck	S. B. Crooks	G. M. Davidson
Enfisco Oil Corp., Court Arcade Bldg., Tulsa, Okla.	2	4,500	Edwin N. Fischer		N. Jerome Fischer		D. E. Sanders		William H. Hiler
Equitable Gas Co., 435 Sixth Ave., Pittsburgh, Pa.	2	3,100	A. W. Robertson	A. Hurlburt	W. B. Carson	C. J. Braun, Jr.	A. Hurlburt		Judson Bonsall
Export Refining Corp., 709 Higgins Bldg., Los Angeles, Calif.	1	20,000	Carl J. von Bibra	H. J. Barneson	William A. Kirk	William A. Kirk			

Personnel of Natural Gasoline Industry

Company and General Office Address—	No. Plants	Gallons Dy. Cap.	President	Vice Presidents	Secretary	Treasurer	General Manager	Sales Manager	General Supt. of Plants
Faith Oil & Gas Co., Commercial Bank Bldg., Titusville, Pa.	2	600	J. E. Fleming	G. F. Fleming	John J. Harvey	John J. Harvey	J. E. Fleming		A. J. Phillips
Field, O. C., Gasoline Corp., 609 Board of Trade Bldg., Los Angeles, Calif.	3	19,500	O. C. Field		N. J. Hale	R. B. Hale	O. C. Field		J. C. Burks
Foster, Dean E., & Co., 304 New Wright Bldg., Tulsa, Okla.	1	15,000	D. E. Foster		M. P. Okeson	D. E. Foster	D. E. Foster	D. E. Foster	E. W. Melling
Foster Petroleum Corp., Union Bank Bldg., Bartlesville, Okla.	2	5,500	H. J. Foster	Burdette Blue	Paul F. Dahlgren	Paul F. Dahlgren	Paul F. Dahlgren	Paul Shunkey	Paul Shunkey
Four Gasoline Co., 808 S. Cheyenne, Tulsa, Okla.	1	500	Charles Klein	N. V. V. Franchot	D. W. Franchot			E. L. Tracy	J. E. Bumpus
Franchot, D. W., & Co., 808 S. Cheyenne, Tulsa, Okla.	1	500					D. W. Franchot	E. L. Tracy	J. E. Bumpus
Fullerton Oil Co., Box 34, Fullerton, Calif.	1	5,000	W. L. Valentine	W. F. Ball	H. T. Severns	W. L. Valentine	H. M. Dailey		N. J. Allen
General Petroleum Corp. of Calif., Higgins Bldg., Los Angeles, Calif.	8	170,200	Lionel T. Barneson	W. B. Walker*	C. R. Stevens	J. Leslie Barneson	R. A. Sperry	E. R. Rich	George L. Ratcliff
Gilliland Oil Co., Second and Cheyenne Sts., Tulsa, Okla.	5	58,000	P. J. Hurley	D. W. Johnson	C. M. Christensen	D. W. Johnson	P. J. Hurley		
Gilmore, Forest E., Co., 728 Wright Bldg., Tulsa, Okla.	5	28,000	C. A. Sheppard	F. E. Gilmore*	C. B. Cann	Seth Roberts	Forest E. Gilmore	Forest E. Gilmore	Forest E. Gilmore
Gilmore Gasoline Plant No. 1, 2423 E. 28th St., Los Angeles, Calif.	1	10,000		E. B. Gilmore	C. S. Bessemyer	C. S. Bessemyer			W. C. Minger
Glomar Gasoline Co., 210 Roberts Bldg., Tulsa, Okla.	3	4,550	E. A. Bradley		John E. Hilditch	John E. Hilditch	John E. Hilditch	John E. Hilditch	John E. Hilditch
Gould, Nancy E., & Son, Butler, Pa.	1	30					Floyd B. Gould		Floyd B. Gould
Grimes Gasoline Co., 520 Wright Bldg., Tulsa, Okla.	4	10,000	Charles W. Grimes	E. W. La Marr	Otha H. Grimes	Otha H. Grimes	Otha H. Grimes	Otha H. Grimes	J. D. McQuillen
Gulf Refining Co., of La., Shreveport, La.	11	79,668	G. S. Davison	R. C. Minor	W. J. Telle	J. E. Nelson	R. C. Minor		W. H. Vaughn
Gypsy Oil Co., First Natl. Bank Bldg., Tulsa, Okla.	12	193,400	Geo. S. Davidson	F. A. Leovy*	W. J. Guthrie	J. E. Nelson			S. G. Sanderson
Hanlon Gasoline Co., Seventh and Cheyenne Sts., Tulsa, Okla.	4	50,000	T. K. Smith	E. I. Hanlon	J. H. Boyle	C. F. Quinlan		A. F. Wood	F. G. Yonker
Harland Oil Co., Walco, Okla.	2	6,000	W. W. Vensel	T. S. Loffland	H. W. Vensel	T. M. Loffland	H. W. Vensel	H. W. Vensel	H. W. Vensel
Hart Oil Corp., 1111 F. & M. Bldg., Fort Worth, Tex.	1	500	J. J. Hart	C. S. Hart	Edgar K. Hart	Edgar K. Hart			Tom Evans
Haskell & Bayliss, Pleasantville, Pa.	1	150					William A. Haskell		
Haskell & Dunham, Pleasantville, Pa.	1	100		Haskell Brothers*			William A. Haskell		
Heck, W. B., & Co., Box 164, Owensboro, Ky.	1	200							
Henderson Co., The, 503-4 Bank of Commerce Bldg., Tulsa, Okla.	2	30,000	F. C. Henderson	J. Wood Glass	F. C. Hall	E. P. Henderson	F. C. Hall	F. C. Hall	J. O. Huffman
Highway Oil Refining Corp., Lynch Bldg., Tulsa, Okla.	2	1,100	F. I. Louis	F. A. Baker*	R. B. Pringle	C. B. Lynch		R. O. Wikoff	
Hirt-MacDermott & Co., 407 Capps Bldg., Fort Worth, Tex.	4	18,000	W. F. MacDermott		J. E. Anderson	W. F. MacDermott			F. P. Carroll
Hodden, J. B., Henry's Mill, Pa.	1	.....	J. B. Hodden						
Holly Oil Co., Colorado Springs, Colo.	1	7,000	A. E. Carlton	S. W. Sinsheimer*	Remsen McGinnis	Remsen McGinnis	C. A. Johnson	C. A. Johnson	J. H. Grimes
Home Gas Co., Clarion, Pa.	1	.....	E. H. Banner	H. H. Arnold	M. M. Kaufman	Abe Kaufman			
Hope Construction & Refining Co., 545 Wm. Penn Way, Pittsburgh, Pa.	22	142,600	Christy Payne	J. B. Corrin*	S. E. W. Burnside	R. D. Beardsley	J. B. Corrin		W. B. Gribble
Huber, J. M., Co. of La., Inc., 130 W. 42d St., New York	1	4,000	J. M. Huber	H. W. Huber	C. W. Easterling	Walter Huber		V. E. Morgan	H. W. Price
Hunter & Hawkey, Tidioute, Pa.	1	300					J. L. Hunter		H. R. Hawkey
Humble Oil & Refining Co., Humble Bldg., Houston, Tex.	11	76,400	W. S. Farish	R. L. Blaffer*	F. O. Freese	R. L. Blaffer		B. H. Brown	W. O. Stowell
Hurley Gasoline Co., Kennedy Bldg., Tulsa, Okla.	..	.....	A. E. Hurley	J. W. Hurley*	C. E. Hurley	C. E. Hurley	J. W. Hurley	M. S. Patton	E. C. Hughes
Independent Oil & Gas Co., Kennedy Bldg., Tulsa, Okla.	1	25,000	E. H. Moore	R. B. Pringle	R. M. Riggins	R. M. Riggins	R. B. Pringle	R. V. McCormick	H. Wirshing
Invader 50 Well Syndicate, 612 Ry. Exch. Bldg., Muskogee, Okla.	1	500					B. Frank Wood		J. L. Nourse
Johnson & Myers Brothers, R. F. D. No. 3, Tidioute, Pa.	1	200					E. R. Johnson		
Kansas Gasoline Co., Kennedy Bldg., Tulsa, Okla.	1	5,000	J. A. Hull	Ralph C. Riley	O. J. McCann	P. F. Cole			J. L. Looney
Lomita Gasoline Co., Box 669, Long Beach, Calif.	1	18,000	F. R. Bain	A. T. Jergins*	F. S. Wade	F. S. Wade	J. A. Campbell		L. V. Cassaday
Lone Star Gas Co., Dallas, Tex.	6	69,000	L. B. Denning	R. A. Crawford*	D. L. Cobb	D. L. Cobb	F. L. Chase		J. R. Jarris
Lord, Henry C., Box 231, Robinson, Ill.	1	100	Henry C. Lord						
Louisiana Gas Products Corp., Fourth and Jefferson Sts., Monroe, La.	1	1,000	G. S. Weaks	F. F. Millsaps	A. Horuff	A. Horuff	G. G. Weaks	G. G. Weaks	A. E. Whiting
Louisiana Oil Refining Corp., Box 1117, Shreveport, La.	2	22,000	R. B. Kahle	C. M. Bennett*	C. R. Harrison	F. T. Whiting		F. E. Wilkerson	B. P. Crittenden
Magnolia Petroleum Co., Magnolia Bldg., Dallas, Tex.	47	100,067	E. R. Brown	B. H. Stephens*	Courtenay Marshall	W. C. Proctor	B. H. Stephens	A. C. Ebie	F. V. Faulkner
Manhattan Oil Co., 800 Security Bldg., Kansas City, Mo.	2	13,000	E. W. Goebel	J. P. Howe	J. F. Getty	E. L. Martin	E. W. Goebel		
Manufacturers Light & Heat Co., 248 Fourth Ave., Pittsburgh, Pa.	3	10,250	Geo. W. Ratcliffe	L. A. Meyran*	H. E. Siebert	Edward Reynolds	E. J. Egan		J. F. Nestor
Marland Refining Co., Ponca City, Okla.	20	181,100	E. W. Marland	G. G. Shallenberger*	C. E. Stevenson	R. E. Clark		F. D. Applegate	John E. Jones
Masoneal Gasoline Co., Kennedy Bldg., Tulsa, Okla.	2	2,700	D. B. Mason	R. O. Neal	J. E. Monroe	J. E. Monroe	R. O. Neal		O. Reeves
McMan Oil & Gas Co., Drew Bldg., Tulsa, Okla.	4	33,500	J. A. Chapman	R. M. McFarlin*	W. G. Guiss	H. G. Barnard		W. G. Guiss	G. S. Bays
Midco Oil Corp., Midco Bldg., Tulsa, Okla.	4	7,150	Henry T. Heald	T. J. Ellis	Burton French	Burton French	T. J. Ellis		
Mid-Continent Petroleum Corp., Cosden Bldg., Tulsa, Okla.	11	128,000							F. E. Kerney
Mid-Kansas Oil & Gas Co., Findlay, Ohio	4	29,000	R. J. Berry	W. W. Fleming	C. L. Fleming	J. L. Cook			W. E. Smith
Midwest Refining Co., First Natl. Bank Bldg., Denver, Colo.	2	75,000	John D. Clark	R. S. Ellison	T. A. Pedley	M. K. Blackmer	A. W. Peake	H. G. Naylor	W. R. Finney
Mildren Oil Co., Marietta, Ohio	1	100					E. J. Mildren		E. J. Mildren
Monroe-Louisiana Carbon Co., 45 E. 42d St., New York	1	1,200	F. F. Curtze	F. J. Binz	Reid L. Carr	George L. Bubb		W. H. Anders	H. H. Reardon
Moon Gasoline Co., Chesnut & Smith Bldg., Tulsa, Okla.	2	5,000	Thos. Chestnut	C. P. Quinlan	J. L. Goddard	M. F. Powers	M. F. Powers	M. F. Powers	M. F. Powers
M. T. C. Oil & Gas Co. and Elcbucan Oil Co., Wright Bldg., Tulsa, Okla.	1	7,000	W. Seyler	H. J. Wolf	C. F. Jacobson	C. F. Jacobson			
Myers & Hays, Chicora, Pa.	1	55							
National Oil & Development Co., Atlas Bldg., Tulsa, Okla.	1	2,000	A. B. Butler, Jr.	S. G. Garrett*	E. Stephens	A. B. Butler, Jr.	A. B. Butler, Jr.	A. B. Butler, Jr.	H. L. Cantner
Natural Gas & Fuel Corp., El Dorado, Ark.	4	26,500	T. H. Barton	H. F. Nash	J. Zeppa	J. Zeppa	T. H. Barton	G. L. Gano	G. T. Koch
Natural Gasoline Co., 1223 Pacific Mutual Bldg., Los Angeles, Calif.	..	.....	G. D. Nordenholt	M. S. Skinner	M. S. Skinner				
Natural Gas Products Co., Los Angeles, Calif.	1	3,500	Shane Morgan	James E. Kelby	James E. Kelby	James E. Kelby			R. L. James
National Products Co., Pittsburgh, Pa.	7	7,900	F. W. Finley	H. S. Cohen			H. A. Frame		H. A. Frame
New York Oil Co., 107 S. Wolcott St., Casper, Wyo.	2	2,700	Emil H. Steiger	Whitney G. Case	H. C. Curtis	H. C. Curtis	Emil H. Steiger		
Noble Oil & Gas Co., Wright Bldg., Tulsa, Okla.	2	16,500	Thad B. Preston	W. C. Abrams	G. H. Kirchner	W. C. Abrams		W. T. Schnur	J. C. Haning
Nolan & Lamberton, 212 S. Olympia, Tulsa, Okla.	1	35	Owned by partnership						
Norton & Jackson, Tidioute, Pa.	1	72	E. E. Norton				E. E. Norton		
Norwalk Co., 310 Sansome St., San Francisco, Calif.	1	25,000	L. T. Barneson	John Barneson*	W. E. Kropp		H. J. Barneson		H. J. Barneson

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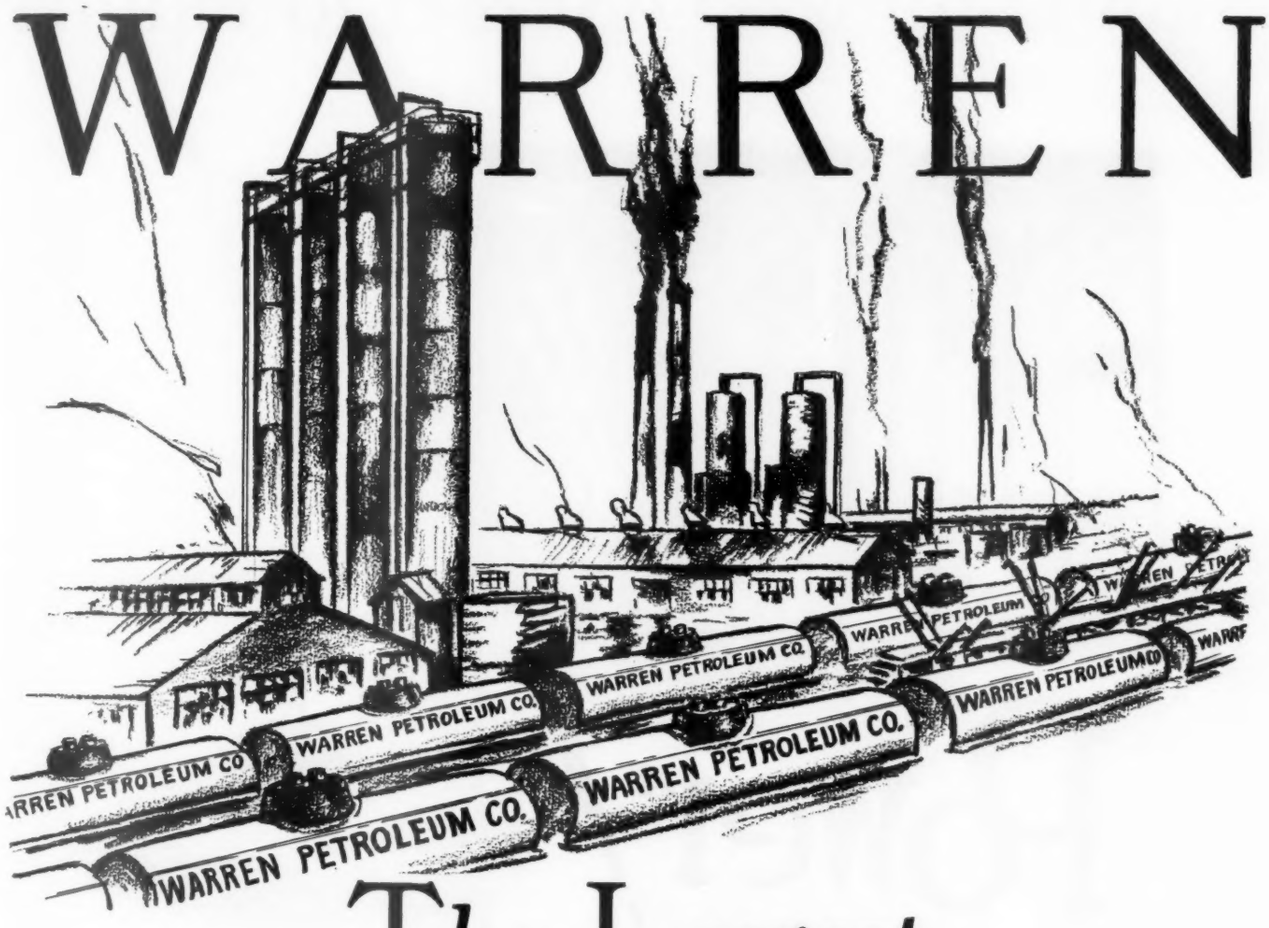

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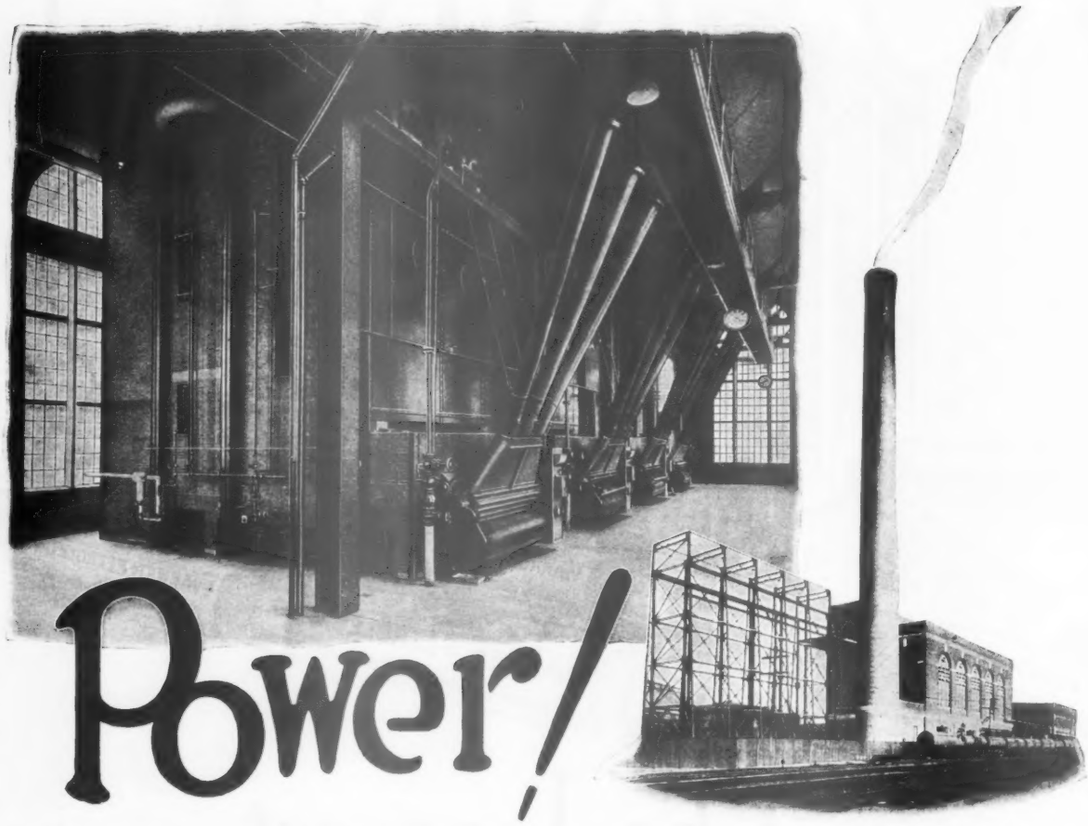

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Personnel of Natural Gasoline Industry

Company and General Office Address—	No. Plants	Gallons Dy.Cap.	President	Vice Presidents	Secretary	Treasurer	General Manager	Sales Manager	General Supt. of Plants
Ackland Gasoline Prod. Co. Bank of Commerce Bldg., Tulsa, Okla.	1	2,500	A. C. H. Snyder	F. L. Townsley	M. A. Bigelow	M. A. Bigelow	M. A. Bigelow	E. M. Wildman	C. Cutting
Ohio Oil Co., Findlay, Ohio	50	107,227	O. D. Donnell	F. E. Hurley*	C. L. Fleming	F. A. Billstone	O. D. Donnell		
Oil State Gasoline Co., 424 S. Cheyenne, Tulsa, Okla.	3	5,700	O. R. Howard	E. A. Ross	Dalton Lain	C. E. Duffield	John M. Hall	W. G. Kirschke	
Oklahoma Gasoline Plants, Inc., 512 Berryhill Bldg., Sapulpa, Okla.	1	5,500	L. B. Jackson		M. D. Fitzgerald	R. J. Ranck			E. E. Thompson
Okmulgee Producers & Manufacturers Gas Co., McCulloch Bldg., Okmulgee, Okla.	1	500	W. B. Pine	R. D. Pine	W. A. Hiatt	R. D. Pine	J. R. Scohy	J. R. Scohy	L. V. Linton
Omar Gasoline Co., Wichita Falls, Tex.	1	9,500	E. A. Watts	I. L. Dunn	G. A. Ritnour	I. L. Dunn	G. A. Ritnour	G. A. Ritnour	R. C. Crump
Orfic Gasoline Prod. Co., Tulsa, Okla.	3	11,000	A. C. H. Snyder	F. L. Townsley	M. A. Bigelow	M. A. Bigelow	M. A. Bigelow	E. M. Wildman	C. Cutting
Owen Gasoline Co., Commercial Bank Bldg., Independence, Kans.	2	13,000	M. L. Truby	V. A. Hays*	D. W. Stewart	H. F. Mitchell			L. G. Parsons
Pala Oil Co., Shreveport, La.	1	200	F. L. Wiegand	J. M. Post	G. G. Hope	G. G. Hope	F. L. Wiegand		
Palmer Corp., 1100 City Bank Bldg., Shreveport, La.	3	30,000	H. L. Hollis	N. C. McGowen*	R. H. Haigh	E. J. McGowen, Jr.	N. C. McGowen	W. F. Hartwig	B. M. Nowery
Pan American Petroleum Co., Petroleum Securities Bldg., Los Angeles, Calif.	6	71,500	J. C. Anderson				J. C. Anderson	J. T. Armitage	H. L. Eggleston
Pequignot, E. O., Tidioute, Pa.	2	750	E. O. Pequignot			E. O. Pequignot	E. O. Pequignot	E. O. Pequignot	E. O. Pequignot
Peppers Gasoline Co., Enid, Okla.	1	3,000	C. C. Peppers		H. H. Champlin				O. C. Sullivan
Pep Gasoline Co., Box 208, Sedan, Kans.	1	1,800	J. O. Bruen	E. W. Bruen*	E. W. Bruen	J. O. Bruen	J. O. Bruen		William Harman
Phelps Gasoline Co., Shamrock, Tex.	1	12,000	Thos. Bryan	Frank Phelps*	Ione Bryan	Frank Phelps	Thomas Bryan		Thomas Bryan
Phillips Petroleum Co., Bartlesville, Okla.	39	591,000	Frank Phillips	L. E. Phillips*	H. E. Koopman	H. E. Koopman	L. E. Phillips	H. A. Trower	F. E. Rice
Pittsburgh & West Virginia Gas Co., 435 Sixth Ave., Pittsburgh, Pa.	1	1,800	A. W. Robertson	A. Hurlburt	W. B. Carson	C. J. Braun, Jr.	A. Hurlburt		Judson Bonsall
Potter, Ernest, Oil Co., Monticello, Ky.	...	.....	Ernest Porter	Margaret Porter	Mary Porter	Ernest Porter	Ernest Porter		Henry Powell
Powers, M. F., Chesnut & Smith Bldg., Tulsa, Okla.	1	4,000	M. F. Powers						
Powers & Quinlan, Chestnut & Smith Bldg., Tulsa, Okla.	2	4,000							
Producers & Refiners Corp., Patterson Bldg., Denver, Colo.	1	10,000		John Fertig	A. W. Heinemann	O. O. Holmgren	John Fertig	H. E. Johnston	L. R. Crawford
Pure Oil Co., 35 E. Wacker Drive, Chicago, Ill.	13	74,325	H. M. Dawes	R. W. McIlvain*	F. S. Heath	Rawleigh Warner		R. H. McElroy	R. H. Carr
President Oil Co., Emlenton, Pa.	3	750	H. J. Crawford	T. B. Gregory	J. E. Taylor	J. E. Taylor	J. S. Beals		S. Smith
Producers Oil Corp., Olean, N. Y.	1	850	W. A. Dusenbury	Harry Bradley*	M. A. Newman	F. M. Johnson	H. L. Jacoby		E. M. Johnson
Rancho Lo Bua Oil Co., 1105 California Bank Bldg., Los Angeles, Calif.	1	5,000	G. Allen Hancock		E. A. Olson				J. H. Chapman
Red River Oil Co., Drew Bldg., Tulsa, Okla.	1	2,200	R. M. McFarland	O. H. Chapman	H. G. Barnard	J. A. Chapman			G. S. Bays
Reitz Service Station, Connoquenessing, Pa.	1	75	M. W. Reitz						
Reno Oil Co., Wells St., Sistersville, W. Va.	10	11,290	J. P. Flynn	T. B. Gregory	W. R. Reitz	W. R. Reitz	J. P. Flynn	J. P. Flynn	
Reserve Gas Co., 545 Wm. Penn Way, Pittsburgh, Pa.	2	33,000	John B. Tonkin	T. B. Gregory	S. E. W. Burnside	R. D. Beardsley	John B. Corrin		W. B. Gribble
Reserve Natural Gas Co. of La., 1321 Slattery Bldg., Shreveport, La.	1	6,000	M. W. Bahan	J. R. Munce	T. J. Heard	T. J. Heard	C. A. Dally, Jr.		W. E. Nestor
Rice Ranch Oil Co., 548 S. Spring St., Los Angeles, Calif.	2	5,500	Alfred C. Webster	G. W. Lichtenberger	A. J. Bayer		Edgar Craig		G. W. Buchanan
Richfield Oil Co., 215 W. Seventh St., Los Angeles, Calif.	10	97,500	J. A. Talbot	C. M. Fuller	C. A. Madary	J. S. Wallace	H. R. Linhoff	C. E. Ward and C. E. Gotterla	
Rio Grande Oil Co., 704-714 S. Hill St., Los Angeles, Calif.	2	20,000	L. E. Lockhart	L. M. Lockhart*	L. M. Lockhart	Charles S. Jones	L. M. Lockhart	J. N. Reed	C. E. Redd and R. E. Wells
Romarti Gasoline Co., Shell Bldg., St. Louis, Mo.	1	12,000	T. F. Lydon	L. F. Bayer	P. R. Chenowith			G. G. Woodruff	G. S. Rollin
Rotary Gasoline Co., Lynch Bldg., Tulsa, Okla.	1	1,200	C. E. Duffield	T. J. Hartman	W. C. Elliott	W. C. Elliott		R. O. Wikoff	
Roxana Petroleum Corp., Shell Bldg., St. Louis, Mo.	8	38,700	F. Godber	T. F. Lydon	P. R. Chenowith	T. F. Lydon		G. G. Woodruff	G. S. Rollin
Ryan & Hackett Co., 1224 Pacific Mutual Bldg., Los Angeles, Calif.	1	2,000	Not incorporated						
Salem Gasoline Co., 940 Old South Bldg., Boston, Mass.	1	2,000	Godfrey L. Cabot	Fred Diddle	R. G. Allen	Thomas D. Cabot	R. G. Allen	R. G. Allen	Flava Pratt
Sand Springs Home, Gasoline Dept., Sand Spring Ry. Bldg., Sand Springs, Okla.	2	6,000	E. M. Monsell		C. F. Tingley	E. M. Monsell		Harrison H. Young	Harrison H. Young
Service Gasoline Co., St. Marys, Pa.	1	.....	William Kaul	William E. Hall	B. T. Darr	J. A. Hanhauser	William Kaul	Philip Dixon	Philip Dixon
Shaffer Oil & Refining Co., O. R. Howard Bldg., Tulsa, Okla.	4	16,000	J. J. O'Brien	J. L. Gray*	W. R. Francisco	W. R. Francisco	L. B. Riddle	B. L. Majewski	W. A. Melton
Sharpe, Rowe & Von Tacky Brothers, 309 E. Walnut, Titusville, Pa.	1	100			E. Von Tacky		J. J. Sharpe	E. Von Tacky	
Shell Co. of Calif., 200 Bush St., San Francisco, Calif.	10	300,000	G. Legh-Jones	H. R. Gallagher*	G. C. Noble	John Lauder	H. R. Gallagher	H. R. Gallagher	William Cameron
Signal Gasoline Co., Inc., and Subsidiary Cos., fifth floor, Roosevelt Bldg., Los Angeles, Calif.	7	72,000	S. B. Mosher	H. M. Mosher	C. B. Edington	C. B. Edington	S. B. Mosher		R. H. Green
Silurian Oil Co., The, 704 Shell Bldg., St. Louis, Mo.	2	3,300	B. O. Mahaffey	L. A. Mylius	E. R. Christman	E. R. Christman	B. O. Mahaffey		
Simms Oil Co., Magnolia Bldg., Dallas, Tex.	3	15,000	Edward T. Moore	F. R. Schneider*	L. W. Richards	D. H. Voss		Palmer Hughes	W. L. Todd
Sinclair Oil & Gas Co., Sinclair Bldg., Tulsa, Okla.	13	270,000	R. A. Griffith	H. B. Bernard*	A. E. Barrus	A. E. Barrus		A. T. Scherer	H. B. Bernard
Skelly Oil Co., Skelly Bldg., Tulsa, Okla.	17	171,450	W. G. Skelly	C. C. Herndon*	F. A. Hopp	F. A. Hopp		G. A. R. Slocum	Emby Kaye
Smith-Hanlon, Inc., Seventh and Cheyenne Sts., Tulsa, Okla.	2	18,000	E. I. Hanlon	T. K. Smith	J. H. Boyle	D. E. Buchanan		A. F. Wood	F. G. Yonker
Smitherman & McDonald, Commercial Bldg., Shreveport, La.	1	400	R. G. Smitherman, Jr.	L. L. McDonald	C. B. Smitherman	C. B. Smitherman			R. G. Smitherman, Jr.
Sloan & Zook Co., The, 101 Main St., Bradford, Pa.	1	500	R. T. Zook	William J. Sloan	C. T. Rickerson	William J. Sloan			Paul H. Zook
Southern Gasoline Co., Ranger, Tex.	1	2,500	Fred C. Lewis		D. M. Trott	D. M. Trott	C. W. Nicodemus		H. R. Hinman
South Penn Oil Co., 545 Wm. Penn Place, Pittsburgh, Pa.	39	45,000	L. W. Young, Jr.	P. H. Curry*	John L. Hays	S. G. Hartman	C. B. Turner		W. E. Livingston
Standard Gasoline Co., 225 Bush St., San Francisco, Calif.	43	449,000	K. R. Kingsbury	R. J. Hanna*	J. H. Tuttle	R. C. Warner	Earle Derby		R. E. Beckley
Standard Oil Co. of Indiana, 910 S. Michigan Ave., Chicago	6	59,884	E. G. Seubert	B. Parks*	F. T. Graham	C. J. Barkdull	B. Parks		E. J. Goldman
Standard Oil Co. of Louisiana, Standard Bldg., Shreveport, La.	4	44,500		C. O. Scholder	A. K. Gordon	A. K. Gordon			Roger A. Howe
Star Gasoline Co., 408 Berryhill Bldg., Sapulpa, Okla.	1	800	D. A. MacDougal	J. E. Faught	T. H. Stuart	J. G. Leonard	T. H. Stuart	T. H. Stuart	M. F. Phillips
Stebbins Oil & Gasoline Co., 542 Kennedy Bldg., Tulsa, Okla.	2	3,000	J. Ray Stebbins	C. A. Steere	C. E. Nelson	Ida May Johnston	J. Ray Stebbins		A. H. Brewer
Sterling Oil & Gas Co., 418 Citizens Natl. Bank Bldg., Abilene, Tex.	1	600	C. H. Petry	W. S. Duty	J. G. Pettus	J. G. Pettus	W. S. Duty	J. G. Pettus	T. T. Curtis
Superior Oil Corp., 208 E. Main, Lexington, Ky.	2	1,500	H. G. Davies	John H. Stone	E. J. Henry	Grover C. Harned			Richard Duns
Swiss Oil Corp., 402 Wolf-Wile Bldg., Lexington, Ky.	1	1,500	Thomas A. Combs	E. L. McDonald	James H. Combs	James H. Combs			Mark H. Griffith
Test Oil Co., 43 Main St., Bradford, Pa.	1	3,000	Lewis Emery	E. C. Emery*	C. H. Olmsted	Lewis Emery	J. L. Moran		J. L. Moran
Texas-Louisiana Producing & Carbon Co., P. O. Box 693, Monroe, La.	1	6,000	R. R. Beaman	Travis Oliver	C. H. Reid	C. H. Reid			F. J. Linquist
Texas Pacific Coal & Oil Co., F. & M. Bank Bldg., Fort Worth, Tex	4	42,000	J. R. Penn	E. J. Marston*	H. W. Knox	E. J. Marston	E. R. Lederer	F. D. Bostaph	D. B. Hiatt
The Texas Company, Houston, Tex.	20	134,661	R. C. Holmes	T. J. Donoghue*	E. M. Crone	C. E. Woodbridge			

WE BELIEVE

in the future of the natural gasoline industry

BECAUSE

it is producing a commodity that is indispensable and that is at last being recognized for its true worth.

WE WELCOME

the Association of Natural Gasoline Manufacturers to Tulsa because as members of this organization we recognize the valuable service it is rendering to the industry through research work, educational campaigns and in other ways.

SKELLY OIL CO.

TULSA

One of the largest manufacturers of natural gasoline in the Mid-Continent field.

Personnel of Natural Gasoline Industry

Company and General Office Address—	No. Plants	Gallons Dy. Cap.	President	Vice Presidents	Secretary	Treasurer	General Manager	Sales Manager	General Supt. of Plants
R. L. Thomas, 290 Main St., Tidioute, Pa.	2	280	R. L. Thomas						
Tidal Chelsea Refining Co., Tidal Bldg., Tulsa, Okla.	2	13,000	J. N. Robinson	A. F. Garrett*	D. W. Bell	D. W. Bell		R. N. Cline	C. R. Barton
Tidal Refining Co., Tidal B'dg., Tulsa, Okla.	7	49,000	J. N. Robinson	A. F. Garrett*	D. W. Bell	D. W. Bell		R. N. Cline	C. R. Barton
Tidal-Western Oil Corp., Tidal Bldg., Tulsa, Okla.	2	30,000	J. N. Robinson	A. F. Garrett*	D. W. Bell	D. W. Bell		R. N. Cline	C. R. Barton
Tiger Mountain Oil Co., 912 Mid-Continent Bldg., Tulsa, Okla.	2	7,500	G. C. Arnold	C. H. Jenkins	Willa Ora Bowers	Roy R. Poe	Roy R. Poe	E. H. Poe	Lee Van Warren
Tionesta Gas Co., Oil City, Pa.	1	100	J. B. Forker		E. W. Evans	H. H. James	A. J. Brenninger		
Transcontinental Oil Co., 912 Mid-Continent Bldg., Tulsa, Okla.	9	25,500	F. B. Parriott	J. C. Adams	E. D. Robinson	E. D. Robinson		H. I. Scott	B. A. Whitney
Twin State Oil Co., The, Petroleum Bldg., Tulsa, Okla.	1	2,000	J. Edgar Pew	E. J. Gorman	R. S. McFarland	E. C. Stewart	E. J. Gorman	A. M. Ballard	A. M. Ballard
Union Oil Co. of California, Union Oil Bldg., Los Angeles, Calif.	9	162,750	W. L. Stewart	E. W. Clark	J. McPeak	R. J. Keown		J. M. Geary	R. W. Garman
United Carbon Co., Charleston, W. Va.	7	21,500	Oscar Nelson	C. E. Slagle*	G. A. Williams	T. A. Whelan		C. Riggs	H. E. Norrick
U. S. Carbon Co., Bastrop, La.	1	2,500					P. M. Biddison		J. C. Rogers
United States Refining Co., 409 Higgins Bldg., Los Angeles, Calif.	1	15,000	Carl J. von Bibra		Earle F. Demond	Earle F. Demond			
United States Zinc Co., Henryetta, Okla.	1	2,000					F. P. Lannon, Jr.		G. E. Weekly
Valley Gasoline Co., 510 First Natl. Bank Bldg., Tulsa, Okla.	1	1,000	Plant being dismantled						
Valley Osage Oil Co., 623 Mayo Bldg., Tulsa, Okla.	1	1,500	W. A. Goforth	N. T. Gilbert	C. A. Solt	C. A. Solt	W. A. Goforth		H. C. Kraettli
Victor Gasoline Co., Chestnut & Smith Bldg., Tulsa, Okla.	5	21,000	M. F. Powers	C. P. Quinlan	A. D. Blackard	Felix Quinlan	M. F. Powers	M. F. Powers	M. F. Powers
Virginia Gasoline & Oil Co., Quarrier & Dunbar Sts., Charleston, W. Va.	15	153,200	H. A. Wallace	P. G. Gossler	E. Reynolds, Jr.	E. Reynolds, Jr.	H. A. Wallace		R. N. Parks
Wahl, A. R., Evans City, Pa.	1	250	A. R. Wahl				Fred B. Wahl	A. R. Wahl	
Warner-Caldwell Oil Co., Second Natl. Bank Bldg., Titusville, Pa.	7	2,450	Alex N. Warner	J. H. Caldwell, Jr.	W. W. Warner	J. H. Caldwell, Jr.	Alex N. Warner	Alex N. Warner	Preston C. Hatfield
Washington Development Co., The, Mt. Vernon, Ohio	7	16,000	R. S. Lord	Robert J. Lindsay	Thomas B. Hall	R. E. Hepler			E. N. Layfield
Watchorn Oil & Gas Co., 401-3 Equity Bldg., Oklahoma City, Okla.	1	15,000	Robert Watchorn	J. R. Porter	Frank Harper	Frank Harper			Emil Geppelt
Wentz, L. H., Ponca City, Okla.	2	20,000						O. H. Schoemvald	O. H. Schoemvald
West Coast Refining Co., 620 Pacific Finance Bldg., Los Angeles, Calif.	1	50,000	A. H. Bradford	M. D. Schatzman	William B. Ogden				W. M. Bradford
Western Oil Corp. of Texas, 820 Hamilton Bldg., Wichita Falls, Tex.	2	10,200	W. K. Campbell	G. W. Snedden*	H. R. Robinson	J. F. Darby	W. K. Campbell	Marion Manville	J. R. Gilbert
Wheeler, D. H., P. O. Box 86, Petrolia, Pa.	1	50	Individually owned						
Wilcox, H. F., Oil & Gas Co., Wilcox Bldg., Tulsa, Okla.	4	20,500	H. F. Wilcox	G. A. Dye	M. P. Appleby	M. P. Appleby	G. A. Dye		H. W. McCullah
Wilshire Oil Co., Inc., 2455 E. 27th St., Los Angeles, Calif.	2	100,000	George L. Machris	Alfred P. Machris	Victor A. Machris	Alfred P. Machris	George L. Machris		W. D. Smith
Wingr Oil Co., Trico Bldg., Fisstersville, W. Va.	2	3,500	E. A. Durham	M. B. Hutchinson	Charles N. Kimball	P. W. Neuenschwander	George S. Bradfield		H. G. Ellis
Wolverine Petroleum Corp., Shell Bldg., St. Louis, Mo.	6	14,100	F. Godber	T. F. Lydon	L. E. Bezelgen			G. G. Woodruff	G. S. Rollin
Wright, J. H., Sapulpa, Okla.	1	4,000	Not incorporated						

*ADDITIONAL VICE PRESIDENTS

Allegany Gas Co.—G. A. Crosby, C. I. Crippen, H. A. Clark.
Amerada Petroleum Corp.—J. M. Lovejoy.
American Gasoline Corp.—George B. Maegley.
American Refining Co., Inc.—H. A. Allen.
Arkansas Fuel Oil Co.—J. R. Munce, A. F. Holliday.
Arkansas Natural Gas Co.—George H. Flinn, A. F. Holliday, E. J. Cole.
Barnsdall Oil Co.—R. A. Broomfield.
Bryan, Phelps & Ilseng—A. G. Ilseng.
California Gasoline Co.—J. E. Hare, E. G. Starr.
Calumet Oil Co.—T. H. Collins.
Continental Oil Co.—E. S. Karstedt.
Continental Oil Co. of Texas—E. H. Eddleman, W. N. Alexander, J. J. Perkins.
DeSoto Gasoline Co.—W. B. Flynn, P. M. Weiss.
Devonian Oil Co.—L. C. Ritts.
Eagle-Picher Lead Co.—A. A. Bendelari, John A. Schaeffer, George W. Potter.
Empire Gasoline Co.—H. D. Frueauff, Floyd C. Brown.
General Petroleum Corp. of Calif.—R. A. Sperry, R. E. Maynard, W. L. McLaine.
Gillmore, Forest E., Co.—E. D. Ulrich.
Gulf Refining Co. of Louisiana—F. A. Leovy, Underwood Nazro.
Gypsy Oil Co.—Henry McGraw, Rush Greenslade.
Highway Oil Refining Corp.—E. D. Davis.
Holly Oil Co.—C. A. Johnson.
Hope Construction & Refining Co.—H. C. Cooper.
Humble Oil & Refining Co.—H. C. Wiess, James Anderson, J. S. Bonner, F. P. Sterling, W. W. Fondren.
Hurley Gasoline Co.—A. W. Leonard.
Lomita Gasoline Co.—C. M. Cotton.
Lone Star Gas Co.—F. L. Chase.
Louisiana Oil Refining Corp.—M. J. Grogan.
Magnolia Petroleum Co.—D. C. Stewart, F. V. Faulkner, A. C. Ebie, W. C. Proctor, W. H. Francis, E. E. Plumly.
Manhattan Oil Co.—O. G. Bitler.
Manufacturers Light & Heat Co.—C. F. Niemann.
Marland Refining Co.—Samuel C. Collins, Walter Miller.
McMann Oil & Gas Co.—H. H. Rogers, John R. Rogers.
National Oil & Development Co.—L. J. Butler.
New York Oil Co.—Harry P. Hynds.
Norwalk Co.—K. Kingston.
Ohio Oil Co.—J. K. Kerr, R. J. Berry, John McFadyen.
Oil State Gasoline Co.—Henry Greis, C. E. Duffield.
Owen Gasoline Co.—P. R. Johnson.
Palmer Corp.—D. P. Hynes.
Pep Gasoline Co.—Clyde Bohner.
Phelps Gasoline Co.—Ione Bryan.
Phillips Petroleum Co.—Clyde Alexander, W. N. Davis, J. H. Kane.
Producers & Refiners Corp.—R. E. Wertz, L. R. Crawford.
Producers Oil Corp.—F. J. Wilson.
Pure Oil Co.—C. B. Watson, N. H. Weber.
Richfield Oil Co.—John McKeon.
Rio Grande Oil Co.—Charles S. Jones.
Shaffer Oil & Refining Co.—L. B. Riddle.
Shell Co. of California—John Lauder.
Simms Oil Co.—W. L. Todd.
Sinclair Oil & Gas Co.—H. B. Smith.
Skelly Oil Co.—F. A. Pielsticker, H. M. Stalcup.
South Penn Oil Co.—F. J. Huffman.
Standard Gasoline Co.—H. M. Storey, H. T. Harper, W. H. Berg.
Standard Oil Co. of California—Allan Jackson, R. H. McElroy, E. J. Bullock.
Standard Oil Co. of Louisiana—C. I. Fiero.
Test Oil Co.—L. D. Simons.
Texas Pacific Coal & Oil Co.—E. R. Lederer.
The Texas Company—D. J. Moran, G. L. Noble, W. W. Bruce.
Tidal Chelsea Refining Co.—W. C. Franklin.
Transcontinental Oil Co.—M. W. Bottomfield, J. M. Holliday, L. B. McCammon.
Union Oil Co. of California—W. W. Orcutt, L. P. St. Clair.
United Carbon Co.—L. S. Hornor.
Western Oil Corp. of Texas—J. F. Darby, C. F. Lynde.

NATURAL GASOLINE PLANT LUBRICATION

(Continued from Page 103)

used. If cylinders, pistons and rings are badly worn, a heavier oil must be used to give a better seal, also (in case of vertical engines) to cushion the piston slap.

In certain makes and types of 2-cycle engines, water in the form of vapor is injected with the fuel charge in an effort to retard the burning rate of the fuel and obtain a steam expansion effect, also to reduce the hammer-blow effect of the explosion. Where this water-injection is used better lubrication results can sometimes be obtained by using an oil compounded with about 5 per cent of acidless tallow; this for the same reason that we compound steam cylinder oils.

Carbon Residue

The carbon residue of internal combustion cylinder oils should be as low as possible. Experience has proven that the lightest bodied oil which will maintain a constant lubricating film under a given set of operating conditions is the best and most economical to use. If too heavy an oil is used excessive "carbon" deposits under rings, on piston and cylinder heads, and (in case of 4-cylinder engines) on valves, will be formed and the engine will run hotter.

In crank case and bearing lubrication also the lightest oil which will maintain the proper lubricating film should be used, for increase in viscosity means increase in fluid friction and any increase in either fluid or solid friction means loss of power and increase in heat generation, which is just what we want to avoid.

Too much clearance in crosshead and crankpin bearings is almost as great an evil as too little clearance, for anyone can demonstrate that a horseshoe can be heated red hot by laying it on an anvil and striking it rapidly with a hammer.

Heavy duty engine crankcases should be equipped with continuous circulating filtration and cooling systems. Such systems will pay dividends where large quantities of oil are used.

Air or gas compressors should be lubricated with a light or medium bodied oil, fed sparingly, except where excessively wet gas is being handled. Generally, we find that single and two stage compressors handling gas from the gathering lines to the wells can be satisfactorily lubricated with a good quality paraffin base oil with a viscosity of 300 to 350 seconds to 100 degrees Fahrenheit. We have found some two-stage compressors handling vapors from the weathering tanks and recovery plants discharging at high pressure, that had to have a 750 vis. oil fed 12 to 18 drops per minute per cylinder. Oridinarily 3 to 7 drops per minute per cylinder will do the work.

Forced Feed

Mechanical forced-feed lubrication only should be used for power and compressor cylinders.

The proper crank case oil level should be determined and rigidly maintained. Too much oil in the crank case will shorten the life of the oil; too little will surely burn the bearings up.

Where high speed auxiliaries such as turbine or motor driven centrifugal pumps are used, 200 viscosity oil will usually give a lower bearing temperature than heavier oils, provided, of course, that bearings are in line and in good condition.

As previously stated, no set rules can be laid down as to just what oils will satisfactorily lubricate any certain make of engine, because of varying operating, mechanical and load conditions, but take a new engine of the usual type, properly built, installed, cooled and properly operated and maintained, a good quality paraffin base oil of 300 to 350 seconds viscosity, or asphalt base oil of 500 to 550 seconds viscosity properly fed should give good results. The viscosity of these two oils mentioned will be practically the same at 210 degrees Fahrenheit.

PRESIDENT E. L. PECK REVIEWS SITUATION IN THE INDUSTRY

By E. L. Peck*
President, Association of Natural Gasoline Manufacturers

The Association of Natural Gasoline Manufacturers is entering its seventh year as an organized effort to improve the general conditions of the branch of the petroleum industry it represents.

A number of important and pretentious undertakings have been launched during the past year by the association, chief of which were the research and educational campaign, the revision of the specifications, the tests to determine the best method for ascertaining the proper gravity of gas and the initiation of a movement through a committee to prevent the present wasteful and costly practice of unnecessary venting of tank cars at destination.

During the past 12 months, as shown by the most recent figures of the United States Department of Commerce, the production of motor fuel by refiners has increased approximately 17½ per cent. During the same period the production of natural gasoline has increased approximately 23 per cent, which indicates that 250,000 gallons per day has been produced above the normal requirements of refiners as measured by past experience. A portion of this overproduction has found new markets, attracted partly by the very low prevailing market prices, and partly by a better understanding on the part of consumers generally of the economic uses of natural gasoline. The major relief of the future will undoubtedly result from the broadening of markets and every member of the industry must do his share to bring about the necessary result.

Our markets are rather fluctuating as to demand and further relief would be afforded if more storage capacity, both as tankage and finance, was made available. Without doubt the natural gasoline industry is lagging considerably behind the other branches of the petroleum industry in providing adequate storage facilities for carrying over excess production due to seasonable slumps and when demand temporarily falls below normal. It is evident that the volume of such additional storage would not be excessive when the relatively small volume of production, six to eight days supply, even under our worst condition is taken into account. Inadequate storage facilities are by no means confined to the small producer or the small plant, for there has been a very evident tendency for large plant builders to hold their storage capacity proportionately below that which is usually deemed necessary in a smaller plant, and to force their production in the market almost on a daily basis.

It is doubtful if the industry ever saw a worse condition than that with which it has been confornted this year. Selling prices have been far below the cost of manufacture, while operating expenses due to increasing gas costs, increased producer service requirements, depletion of gas reserves, obsolesence of plant equipment and many other factors, continue at normal levels or increase to higher ones. We are now passing through a period which calls for a stout heart and a long purse, but do not fail to recognize that during such a period is the opportune time to apply strenuous treatment for the chronic ills of the industry as well as for the minor and temporary ailments.

Ills Not Uncontrollable

All of the ills of the natural gasoline industry do not fall in the uncontrollable class. I refer to the unwholesome and unnecessary competition which has existed within our industry during the past few years, especially in the new and larger pools. The elimination of competition, at the expense of stripping a project of all chances for a legitimate profit therefrom, is certainly of no benefit to the participating companies, and does permanently injure our business by the establishment of unfair and uneconomic requirements on the remainder of the industry.

We will probably always be troubled to some extent by the new and inexperienced operator and the promotor who either does not know or is heedless of the vast difference between the securing of a block of inflated casinghead gas contracts, and the later operation of a gasoline plant, under the terms of those contracts, which results in a reasonable profit. There is, however, no possible excuse for experienced natural gasoline manufacturers to continue to build plants under conditions which are almost certain to result in leases. A smaller number of profitable projects are far more desirable, both for the individual company and the industry as a whole, than 100 per cent utilization of available casinghead gas under terms which even the novice should be able to analyze and classify as hopeless.

Over a period of years the schedule of prices paid for casinghead has remained more or less uniform but more recently there has been an upward tendency which certainly is not justified. Furthermore under other clauses of present day contracts, usually spoken of lightly as covering the usual items of service rendered by a gasoline manufacturer for the casinghead gas producer, there has been a decided tendency to increase the burden without corresponding opportunity for compensation. I refer to such obligations as; utilization of a large percentage or all of the flush gas supply regardless of the method of delivery or gas contamination due to various causes, the disregard of probable life of the supply, the failure to consider the expense of residue gas requirements for operation, development, pressure restoration and artificial flowing and vacuum application, all of which obligations are held to be prior to and regardless of the economics of the gasoline manufacturers side. The time is here when the schedule price paid for casinghead gas ceases to be the all important factor, and more attention must be given to the evaluation of the various services rendered by the manufacturer for the producer. These services are not now fully recognized by the average producer, either in the light of additional expense to the manufacturer, or as the truly sizeable saving in expense to himself which results therefrom. The burden of proof is on the manufacture if any relief is to be expected.

Broadening Markets

Recent efforts of the industry have been directed toward broadening of the markets for natural gasoline by research and publicity as well as by improvement in the quality of the product in various ways, the principle one of which is by elimination of the more volatile fractions. There is a limit however to improvement in this direction, so long as arbitrary test methods are used to determine the price of casinghead gas. A more equitable and satisfactory method, already in use to some extent, is to base the price of casinghead gas solely on the price and volume of the finished product, making it possible to cary the process of manufacture to any extent necessary to produce the product for which there exists the most profitable markets.

The natural gasoline industry is a basic one. While conditions are not at the best and there does not seem to be an immediate remedy at hand, I still believe in the future of our product and that a solution will be found. To that end, therefore, we must think straight and work hard and the future will show that the money, the brains and the effort that have been put into the natural gasoline industry will not have been in vain.

*Before Association of Natural Gasoline Manufacturers, Tulsa, Okla., May 24-26.

FRENCH GASOLINE MONOPOLY

A proposal for the nationalization of the import and sale of gasoline has been submitted to a commission of the French Chamber of Deputy Margaine.

THIRD SEMI-ANNUAL CONFERENCE ON STANDARDIZATION JUNE 15-17

By J. Edgar Pew
Chairman, General A. P. I. Committee on Standardization

The third semiannual standardization conference of the American Petroleum Institute to be held in Colorado Springs June 15, 16 and 17, will be largely devoted to analyzing the extent to which our completed specifications are being used, and the results obtained therefrom. This conference is of special interest to the purchaser of oil field equipment.

After several years of painstaking effort on the part of our various committees resulting in practically completed specifications on all or most of the items listed on our standardization program, the time has arrived when careful consideration must be given to the active introduction and use of our standards.

Over 1,700 of our handbooks have been distributed in every oil-producing district of the United States and many foreign countries. Many manufacturers are now marketing standard A. P. I. equipment and have in many cases expended large sums of money in changing patterns, equipment, etc., to accomplish this purpose. It is now up to the oil producers to give active support to this program in a vigorous and methodical way.

This entire standardization program is essentially one of co-operation between the manufacturer and the purchaser. To extend this co-operation, we should have a wide circulation of our standards, espectilly among the field men both in the drilling and production divisions, as well as field warehouse men, supply stores, etc.

Should Adopt Program

Introduction of A. P. I. standards into actual use need not be a wasteful process. The purchaser, and by purchaser we mean not only the actual buyer, but the executives and field superintendents, who in many cases control the buying, should carefully analyze the specifications and adopt a definite program for the actual introduction of the A. P. I. standards to suit his individual requirements.

As stated above, we have enjoyed a wide distribution of our handbooks and specifications, but if we are to accomplish our ultimate aim, they should be made thoroughly familiar to the average man in the field and office.

All handbook owners are particularly requested to give this matter careful consideration. If there are any matters requiring clarification on any particular class of equipment, write to the chairman of the committee dealing with that subject and give him the benefit of your experience and suggestion.

Service on these committees is purely voluntary. These chairmen and committee members are actuated solely by a desire to serve the industry and introduce economy in operations and are giving freely of their best knowledge and experience. In turn, they are entitled to your active support or constructive criticism.

We hope as many as possible of the industry, whether on committees or not, especially the handbook owners and those who are utilizing the specifications, will attend this Colorado Springs conference and lend their co-operation and assistance to the work. Representatives will be there from all oil-producing districts of the United States and an opportunity will be had to exchange ideas and experiences with men from other districts, which exchange of ideas should be beneficial to the industry at large and contribute to our mutual advancement and welfare.

Trouble to Avoid

Another point as to the use of these specifications that should be especially emphasized at this time is that regardless of how good the material specified and furnished is, and regardless of how well this material meets the requirements of present-day drilling, it is possible to build up or strengthen the power applied and make any such material inadequate for the new demands that are put upon it. It is the same trouble that is always confronting the Navy Department of our Government — first building up armor plate to resist projectiles, then making projectiles of sufficient force to penetrate this new and stronger armor plate.

This is especially true as applied to drill pipe for rotary drilling. I contend the weakest place in drilling equipment should be above the derrick floor. There is where trouble, if any, should occur. Fishing jobs should be above the derrick floor, rather than in the hole. Regardless of how good drill pipe is made, it is always possible to build up the power applied sufficiently to break the drill pipe and cause a fishing job. This is what is happening today. The new standard A. P. I. drill pipe has worked so satisfactorily that some users are now trying to exact a greater service than it is adapted for and the result is that breaks and fishing jobs are beginning to occur that should not occur.

In some cases, three boilers and two twin engines are used which, in conjunction with a too rapid rotation of the rotary table, can ruin any drill stem possible to make.

The same is true on other equipment used for drilling such as rig irons, wire rope, derricks, etc. For example, in the Seminole Field, over 300 wells have been drilled of which 37 were lost in the producing area. These lost wells were not dusters but failure to complete them was probably due to the rush to finish the wells and the ensuing greater strains that were imposed upon the materials.

If such troubles as these are being encountered, they should be carefully looked into and the causes analyzed. If our committees can help to solve these problems, they will always endeavor to do so; but do not make unreasonable demands on this admittedly better equipment and then blame your trouble either on the specification or the manufacturer.

If you find trouble with any equipment made under A. P. I. specifications, please analyze your trouble carfeully and impartially—and compare the condition under which the material has been used with the conditions and manner of operations prior to its use—before you pass judgment on these specifications.

General Program—June 15, First Day

10:00 a. m., auditorium, main floor, Broadmoor Hotel: Group session of all committees.

Opening Address: E. W. Clark, president, American Petroleum Institute.

(Immediately after the opening address, each standardization committee will adjourn to the conference room assigned to it, on the first floor of the North Lake section of the Broadmoor Hotel, as listed below. A digest of the principal items to be discussed by each committee is included in the individual committee programs. See A. P. I. Annual Meeting Bulletin No. 6, January 31, 1927, or Special Standardization Bulletin 6-A, for details of reports under consideration.)

The special A. P. I. committee on corrosion, Frank N. Speller, chairman, will hold a meeting Wednesday afternoon, June 15.

Committee meetings (all rooms in North Lake section.)

Room 108: "Belting." A. H. Riney, national chairman.

Room 109: "Boilers." S. J. Dickey, national chairman.

Room 110: "Cable Drilling Tool Joints." Thomas Fleming, Jr., national chairman.

Room 104: "Standard Rigs and Derricks." W. W. Fondren, national chairman.

Room 105: "Oil Country Tubular Goods." J. Edgar Pew, national chairman.

Room 103: "Rig Irons." H. J. Lockhart, national chairman.

Room 106: "Rotary Drilling Equip-

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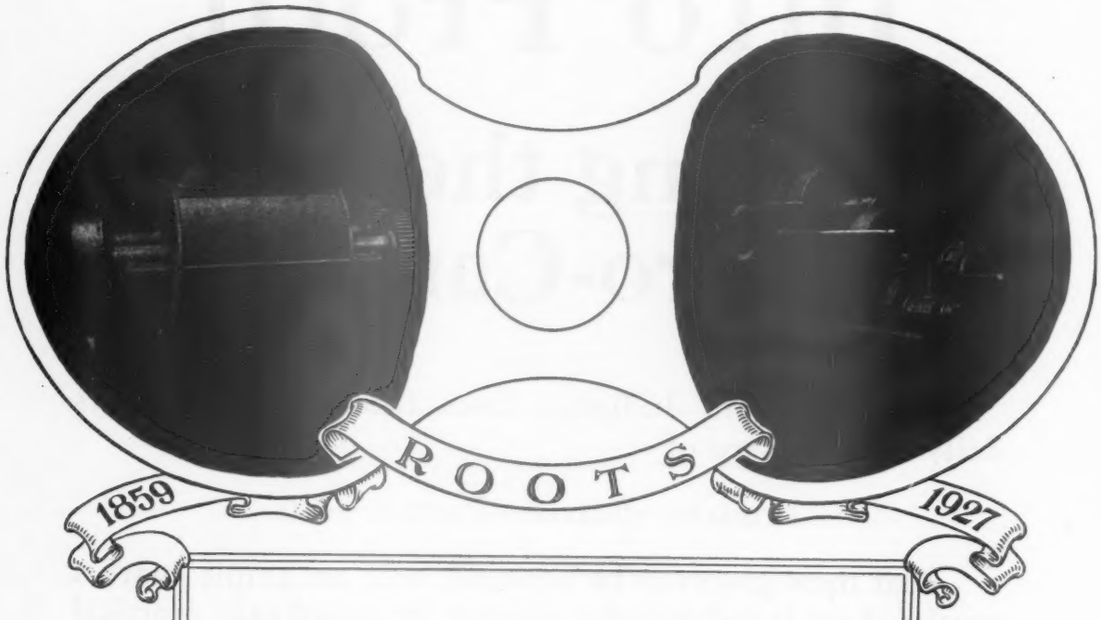

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This principle remains today, substantially the same as when first discovered, but its application has been extended to all industries that pump or measure air, gases or liquids.

Roots equipment is simple, efficient and sturdy. Its use in all kinds of industries in all parts of the world speaks for the satisfaction that Roots equipment insures.

There is a Roots installation near you that has been in operation for from five to forty years—perhaps longer—we'll let its performance be its own recommendation of the service that may be derived from Roots equipment.

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NEW YORK
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ment." Capt. J. F. Lucey, national chairman.

Room 112: "Wire Rope and Manila Cordage." C. C. Scharpenberg, national chairman.

Room 107: "Pumping Equipment and Engines." T. E. Swigart, national chairman.

Room 111: "Steel Tanks for Oil Storage." Ralph J. Reed, national chairman.

Room 102: A. P. I. Division of Standardization Headquarters. C. A. Young, director.

Evening Session, June 15

Room 105, 8 p. m.: Meeting of the Special A. P. I. Correlating Committee on Gauges and Gauging Practice. H. W. Fletcher, chairman. Review and discussion of specifications requiring gauges and gauging practice.

June 16

This day will be devoted to the following:

A. Continuation of such committee meetings from previous day as may be necessary and announced by the chairmen.

B. Joint meeting of such committees as may be necessary to properly correlate the work on items in which they have a common interest. The following joint sessions have been arranged. Other joint sessions which may be necessary will be announced by the chairman of the committees affected.

Room 104, 2 p. m.: Joint session of Committee No. 11, Pumping Equipment and Engines; Committee No. 4, Rigs and Derricks; Committee No. 1, Belting. To consider standard distances between belt-driven and chain-driven equipment (used in pumping and drilling) for purpose of establishing standard foundations therefor. (Refer to individual committee programs for June 15 meetings of these committees for details.)

Room 106, 4 p. m.: Joint session of Committee No. 7, Rotary Equipment; Committee No. 4, Rigs and Derricks. To consider approval of standard headboards to provide standard connections for drawworks posts.

Evening Session

Room 106, 8 p. m.: Joint session of Committee of the Board of Directors and General Committee on Standardization. Review and approval of committee reports.

June 17

9:30 a. m.: General Standardization Symposium, main auditorium, ground floor. Group session of all standardization committees and visitors. Papers by selected speakers will be presented in addition to the reports of the national chairmen as listed below, after which open discussions will be invited. This group session will continue throughout the day and will conclude the standardization conference.

Reports from national chairman and special papers on proper care and use of equipment. (Other special papers, in addition to those listed below, to be announced.)

Belting (committee report.) A. H. Riney, national chairman.

"The Care and Use of Belting in the Oil Industry" (illustrated with slides.) Special paper by David L. Trax, Gypsy Oil Co., Tulsa, Okla.

Boilers (committee report.) S. J. Dickey, national chairman.

Cable Drilling Tool Joints (committee report.) Thomas Fleming, Jr., national chairman.

Standard Rigs and Derricks (committee report.) W. W. Fondren, national chairman.

Oil Country Tubular Goods (committee report.) J. Edgar Pew, national chairman.

Rig Irons (committee report.) H. J. Lockhart, national chairman.

"Field Observations on Benefits Accrued From Use of Specific Standards," by G. E. Bignell, Parkersburg Rig & Reel Co., Tulsa, Okla.

Rotary Drilling Equipment (committee report.) Capt. J. F. Lucey, national chairman.

Wire Lines and Manila Cordage (committee report.) C. C. Scharpenberg, national chairman.

Pumping Equipment and Engines (committee report.) T. E. Swigart, national chairman.

"A. P. I. Tubing," special paper by W. L. McLaine, General Petroleum Corp., Los Angeles, Calif.

"Proper Care and Use of Sucker Rods." Special paper. Speaker to be announced.

Steel Tanks for Oil Storage (committee report.) Ralph J. Reed, national chairman.

Discussion of recommended methods to extend the use of A. P. I. specifications.

It is hoped in this general discussion that definite plans can be adopted for a systematic method of furthering the use of A. P. I. standards. It is realized that if we are to accomplish our aims definite means must be adopted to acquaint the average man in the field, not only with the standard specifications themselves, but exchange ideas on suitable methods for introducing these standards into actual use. The following plan has ben suggested:

Each oil-producing district should be organized as a unit, the nucleus to be the 10 standardization committees in each district. Under our plan of organization on standardization, we have 10 separate subcommittees in the six main oil producing districts of the United States. These 10 subcommittees could be the nucleus of a group or chapter for that district. This group or chapter could convene and elect its officers of chairman, vice chairman and secretary and hold meetings from time to time in that district on matters relating not only to the use of specifications but on various production engineering problems, the proper care and use of equipment, discussion of good practices, etc. Attendance at these meetings should not be restricted to committee members but should be enlarged so that a good representation was had from the field men, such as field foremen and superintendents, including purchasing agents, so as to bring about a better contact on methods and equipment in that particular district. Selected speakers could be invited to present papers at these district meetings which would be recorded by the secretary and passed on to the American Petroleum Institute headquarters for printing and general distribution. In this way, the industry at large would have the benefit of the best ideas and suggestions from each producing district. Twice a year at the annual metieng and semiannual meetings, opportunity could be given for exchanging ideas between districts on problems of mutual interest. Such a procedure might accomplish two purposes.

First. It would bring about a better contact in the district itself, and, second, twice a year would establish contact between the various districts.

June 18, Golf Tournament

There will be a golf tournament on the Broadmoor Hotel links similar to the previous tournaments held—18 holes, medal play against handicap. Prizes will be given for four flights. Details of flights will be announced. Prizes will be on display. The following golf committees have been appointed:

Main Golf Committee: Capt. J. F. Lucey, chairman; F. E. Bernsen, T. D. Davies, W. W. Fondren, Edwin Higgins.

Golf Handicap Committee: T. D. Davies, chairman; E. E. Greve, Edwin Higgins.

Prizes

Grand Prize. President's trophy—low net score. E. W. Clark, president of the institute, has donated a special trophy to be awarded to the player with the lowest net score.

Flight Prizes. There will be four prizes in each flight, the prizes to be the same for each flight, as follows:

First Prize: One set (eight)) registered iron clubs. (Low net.)

Second Prize: One set (three) registered wood clubs (Second low net.)

Third Prize: One special golf bag. (Third low net)

Fourth Prize: One dozen golf balls. (Fourth low net.)

Driving Contest. First Prize: One

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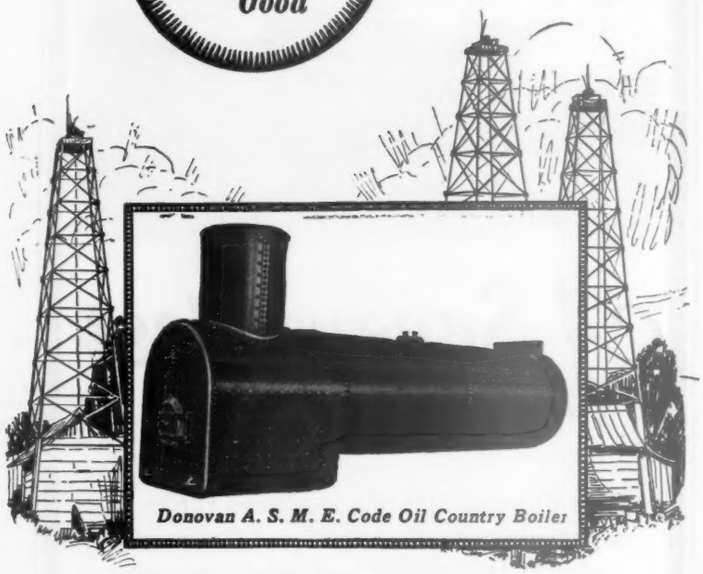

Donovan A. S. M. E. Code Oil Country Boiler

A Donovan Demonstration of Exceptional Stamina

El Dorado, Ark.

Donovan Boiler Works,
Parkersburg, W. Va.
Gentlemen:—

I am giving you some information on the unusual performance of a 66 H.P. DONOVAN BOILER belonging to the Imperial Oil and Gas Products Company in the Smackover District.

Mr. Matheson, drilling superintendent, relates that on this occasion, he had just started to retire when he received word that a boiler had blown up. Mr. Matheson went to the lease at once and looked at the boiler. He saw that the crown sheet had bellied out about one foot across at the soft plug. Mr. Fuller, a boiler maker, came out to repair the job. He found that 47 bolts had been pulled on account of low water. He repaired the job, using the same bolts. Within ten hours after he came on the job, he had the boiler popping off at 140 pounds of steam.

Mr. Fuller has had 20 years experience as a boiler maker. He states that no other boiler could go through what this one did and ever work again. He says that this boiler is made of the toughest steel he has ever seen in all his experience.

Mr. Matheson says that he had already drilled 4—2000 foot holes, cutting 11¼" holes, with this boiler and he never had to wait for steam. When the pumps were shut down, the boiler always lay on the peg popping off.

Mr. Matheson says that he can recommend DONOVAN BOILERS to any human being, and, that from Spindletop to the present time, he has yet to find an equal to the DONOVAN BOILER.

Yours very truly,
Signed—D. H. CONNELLY.

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special golf bag. Second Prize: One dozen golf balls.

Special Note: All those desiring to participate should mail their entry to T. D. Davies, care of National Tube Co., Pittsburgh, Pa., giving their club handicap.

Golf dinner 7 p. m., Broadmoor Hotel, June 18. A special dinner will be given on the 18th for those remaining over for the golf tournament. All committee members and visitors are invited to attend whether members of committees or not.

EUROPE'S LARGEST OIL PORT

Development work on the port of Havre, France, is being continued by the Compagnie Industrielle Maritime in the hope of attracting a greater amount of deep-sea traffic to the port, according to a report from Consul S. J. Fletcher, Havre. Much of the work necessary for the establishment of a petroleum depot and petroleum handling facilities has been completed and further developments are planned.

OIL CAMPS IN PAPUA

All the equipment necessary for the establishment of a self-contained community in the Papuan jungle has been taken by Oriomo Oil, Ltd., Sydney, Australia, to its oil license area of 1,000 square miles on the Oriomo River, in the western division of Papua.

CALIFORNIA FIELD OPERATIONS

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for April amounted to 19,466,087 bbls., an average of 648,870 bbls. per day. This is an increase of 9,008 bbls. per day over March production.

Total stocks of crude and all products in Pacific Coast territory increased during the month 266,170 bbls. The total stocks at the end of the month were 147,299,343 bbls. The total stock increase for the year 1927, up to April 30, was 1,687,167 bbls. Comparative figures as of April 30, 1927; March 31, 1927, and April 30, 1926, are shown in detail on the second page of this report.

One hundred five wells were completed during the month with an initial daily production of 81,432 bbls., compared with 79 wells completed during February with an initial daily production of 40,552 bbls.

PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons.)

District—	Bbls. Per Mo.	Daily Average Apr., 1927	Mar., 1927	Apr., 1926
Kern River	418,502	13,950	13,097	11,947
Mount Poso	3,837	128	167	.....
McKittrick	157,981	5,266	5,147	6,510
Midway-Sunset	2,765,446	92,182	88,644	94,238
Elk Hills	861,597	28,720	33,463	32,680
Lost Hills-Belridge	127,175	4,239	4,869	4,643
Coalinga	620,227	20,674	19,620	21,011
Wheeler Ridge	31,482	1,049	1,118	997
Watsonville	1,725	58	58	57
Santa Maria	152,057	5,069	4,890	4,958
Summerland	4,565	152	132	128
Goleta	5,686	190	272	.....
Ventura Avenue	1,552,439	51,748	51,041	27,647
Ventura-Newhall	187,252	6,242	6,003	5,383
Los Angeles-Salt Lake	54,449	1,818	1,772	1,828
Whittier	55,894	1,863	1,928	2,131
Fullerton (Brea-Olinda)	677,683	22,589	24,278	17,969
Coyote	435,557	14,519	14,166	17,095
Santa Fe Springs	1,299,386	43,313	43,338	49,076
Montebello	483,650	16,122	16,337	17,992
Richfield	643,656	21,455	20,559	12,956
Huntington Beach	2,304,611	76,820	77,670	44,238
Long Beach	2,801,022	93,367	94,623	109,561
Torrance	727,090	24,236	24,263	29,571
Dominguez	514,956	17,165	18,255	21,009
Rosecrans	349,662	11,655	10,858	18,052
Inglewood	1,114,072	37,136	37,241	51,790
Newport	1,625	54	40	104
Seal Beach	1,112,804	37,093	26,012	.....
Total	19,466,087	648,870	639,862	603,059
March	19,835,724	639,862	.....	.....
Increase	*369,637	9,008	.....	.....

*Decrease.

STOCKS

	Apr. 30, 1927	Mar. 31, 1927	Apr. Stocks Increases	Apr. 30, 1926
Heavy crude, heavier than 20° A. P. I., including all grades of fuel	89,666,735	89,015,608	651,127	86,291,516
Refinable crude, 20° A. P. I., and lighter	29,418,335	29,500,917	*82,582	38,393,564
Gasoline	14,565,364	14,521,422	43,942	11,271,718
Naphtha distillates	3,741,718	3,991,351	*249,633	5,641,183
All other stocks	9,907,191	10,003,875	*96,684	10,213,034
Total all stocks	147,299,343	147,033,173	266,170	151,811,015

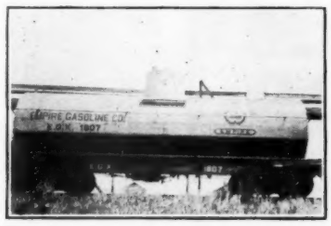
*Decrease.

DEVELOPMENTS

District—	New Rigs Up	Active Drilling	Completed	Daily Initial Output	Active Producing	Abd. Wells Drilling	Abd. Wells Producers
Kern River	15	16	3	1,100	376	6	...
Mount Poso	1	2	2	1,100	3	1	...
McKittrick	1	1	3	87	316	...	...
Midway-Sunset	7	18	16	2,351	2,996	2	2
Elk Hills	..	...	...	.....	246	...	...
Lost Hills-Belridge	..	2	...	.....	309	...	...
Coalinga	..	6	1	122	959	...	1
Wheeler Ridge	..	1	...	.....	28	...	...
Watsonville	..	...	...	.....	6	...	...
Santa Maria	2	4	1	200	203	...	...
Summerland	..	2	...	.....	92	...	...
Goleta	4	2	...	.....	1	1	...
Ventura Avenue	2	28	9	11,250	98	...	...
Ventura-Newhall	..	35	2	595	518	1	...
Los Angeles-Salt Lake	..	...	...	.....	356	...	10
Whittier	..	...	...	.....	181	...	...
Fullerton	..	12	2	900	440	...	...
Coyote	1	3	1	300	210	...	...
Santa Fe Springs	1	1	2	617	337	...	1
Montebello	..	6	...	.....	179	...	...
Richfield	4	31	5	2,013	217	...	...
Huntington Beach	12	42	20	11,209	543	...	1
Long Beach	8	19	7	3,130	694	1	17
Torrance	..	2	3	195	653	...	...
Dominguez	2	3	3	863	77	...	2
Rosecrans	1	2	2	2,600	128	1	3
Inglewood	2	1	3	1,003	215	...	...
Newport	..	2	2	10	10	1	...
Seal Beach	53	135	18	42,512	43	...	...
Miscellaneous drilling	12	127	...	.....	.....	18	...
April	128	503	105	81,432	11,323	31	37
March	181	493	79	40,552	11,298	27	29
Increase	*53	10	26	40,880	25	4	8
Average for year 1926	95	422	76	32,635	11,288	24	17
Average for year 1925	105	417	79	42,247	11,393	28	12
Average for year 1924	103	510	103	42,412	10,903	28	21
Average for year 1923	111	759	82	114,690	8,928	24	
Average for year 1922	115	606	67	43,700	9,410	17	

*Decrease.

QUALITY



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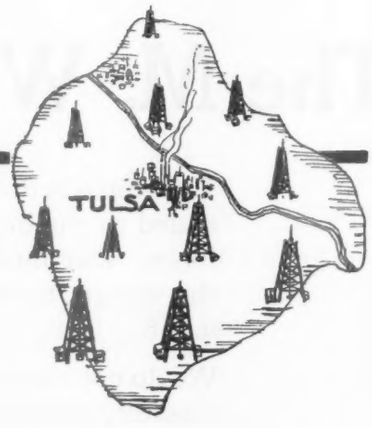
THE du Pont Company is more than willing to place the entire resources of its laboratories and accumulated technical data at your service—for the solution of any paint protection problem which you feel is not satisfactorily met at present.

Your problem will be carefully investigated both chemically and practically by men thoroughly trained to exactly this kind of work.

This service is, of course, at no cost to you. It is offered in the belief that by such complete co-operation, better paint protection can be evolved.

Your inquiries will be answered by the call of one of our practical field paint engineers, who will collect all information regarding your individual painting problems.



To this end, the du Pont Company offers to executives in the petroleum industry the services of the Petroleum Finishing Service, backed by the enormous chemical research facilities of the du Pont Company. These services are, of course, free. Inquiries are invited. E. I. du Pont de Nemours & Co., Inc., Chemical Products Division, Parlin, N. J., Tulsa, Okla., or Chicago, Ill.

DU PONT

A du Pont finish for every surface

TEXAS GROSS PRODUCTION FOR FIRST QUARTER

(Continued from Page 92)

Name and Address—	Barrels	Value
Powers Production Co., Houston	3,166.42	3,849.35
Pivoto, M. E., Sour Lake	3,080.93	4,146.61
Prescott-Phoenix Oil & Gas Co., Wichita Falls	1,604.44	2,703.16
Petroleum Development Co., New York, N. Y.	1,112.56	2,010.40
Pure Oil Co., Chicago, Ill.	984,464.30	1,448,713.42
Pioneer Oil, Gas & Refining Co., Danville, Ill.	1,422.76	2,230.65
Paraffine Oil Co., Houston	11,005.24	14,886.84
Patterson, W. A., Fort Worth	3,345.24	6,291.32
Petroleum Venture Co., Somerset	329.00	424.76
Py-Tex Oil Co., Winchester, Ky.	60,043.96	122,111.11
Payne, W. G., et al, Wichita Falls	3,091.93	5,645.96
Pilkerton, F. L., Burkburnett	3,631.86	6,240.86
Perry-Moran & Woody, Wichita Falls	3,926.18	6,579.79
Producers Supply & Tool Co., Marietta, Ohio	795.82	1,423.91
Pennok Oil Corp., Tulsa, Okla.	31,288.13	48,921.99
Putnam Oil Co., Tulsa, Okla.	1,265.07	1,858.19
Pandem Oil Corp., Dallas	73,715.68	136,716.79
Pace, George L., Wichita Falls	1,351.59	2,409.14
Petroleum Investment Co., Fort Worth	5,694.83	10,464.27
Panhandle Refining Co., Wichita Falls	86,267.34	155,540.01
Progressive Production Co., Kansas City, Mo.	3,608.45	6,753.31
Paggi, Charles, & Co., Beaumont	5,599.78	7,535.50
Perkins & Cullum, Wichita Falls	45,662.14	85,990.34
Perkins, J. J., Wichita Falls	3,718.61	6,913.75
Pitzer & West, Breckenridge	42,759.44	88,084.44
Palmer Fredie Oil Co., Rockdale	177.76	326.83
Planet Petroleum Co., Bartlesville, Okla.	38,683.43	71,978.26
Pattison-Lenix Oil Co., Amarillo	38,272.61	44,991.88
Pois & Johnson, Wichita Falls	2,376.82	3,957.69
Pois, Fine & Schuiz, Wichita Falls	2,760.33	5,367.84
Pois, M., trustee, Wichita Falls	360.56	632.65
Pois, M., trustee, Waggoner et al, Wichita Falls	6,994.85	13,390.10
Prairie Oil & Gas Co., Independence, Kans.	1,403,565.14	1,843,677.12
Prairie Oil & Gas Co., Independence, Kans.	225,761.27	323,851.07
Prairie Lea Production Co., San Antonio	13,041.13	16,151.02
Producers Drilling Co., Wichita Falls	9,680.77	16,582.28
Petroleum Producers Co., Wichita Falls	142,890.97	261,561.43
Pantex Oil Co., Amarillo	124,909.80	130,180.56
P-M Drilling Co., Chelsea, Okla.	412.13	759.92
Phillips & Milam, Chelsea, Okla.	129.64	256.56
Phillips, J. R., Amarillo	880.57	1,100.74
Paggi Brothers Oil Co., Beaumont	22,874.26	29,774.15
Prather, Ed, Special, Houston	216.62	342.06
Phillips Petroleum Co., Bartlesville, Okla.	3,189,861.23	4,144,493.96
Priddy, Walter M., Wichita Falls	10,938.12	19,141.71
Red River Oil Co., Tulsa, Okla.	27,784.09	44,398.86
Ridgeway, G. R., Wichita Falls	3,247.17	5,299.21
Q		
Quartet Oil Co., Tulsa, Okla.	11,889.68	23,395.95
Quincy Oil Co., Electra	153.92	247.00
Quakins Petroleum Co., Ranger	5,577.05	10,502.04
R		
Root, C. M., et al, Eastland	1,413.90	2,346.30
Root, C. M., et al, Eastland	3,116.60	5,317.90
Root, Rhodes et al, Eastland	49,018.80	89,576.70
Root & Rhodes, Eastland	4,796.50	8,149.30
Republic Production Co., Houston	617,375.61	838,078.43
Ross & Slicker Oil Co., Cisco	1,002.50	1,784.25
Ross, C. E., Burkburnett	802.49	1,631.90
Rowan, A. H., trustee, Corsicana	1,746.10	3,625.54
Royat Production Co. (12/31/26), Houston	7,557.46	10,580.44
Robinson, Arthur D., Dallas	6,305.19	12,656.94
Rubsam & Hunter, Wichita Falls	4,333.64	8,030.15
Rockdale, Jr., Oil Co., Rockdale	1,057.66	2,147.04
Rhader & Carey, Wichita Falls	3,103.20	5,058.21
Rolyat Production Co., Houston	8,359.65	11,087.46
Regna Oil Co., Saratoga	5,260.85	6,065.08
Reiter Foster Oil Co., Wichita Falls	35,035.46	61,426.72
Rowe, J. G., Wichita Falls	5,528.11	10,128.69
Ross Brothers, Wichita Falls	1,651.34	3,109.33
Rountree & Simpson, Rockdale	294.14	584.36
Rountree, Ramsel & Kemp, Rockdale	1,175.15	2,215.28
Rountree, White & Simpson, Rockdale	2,879.68	5,784.04
Roberts, M. C. & S. G., Dallas	334.14	390.18
Ruby Oil Co., Minerva	312.34	586.10
Reclamation Co., The, Fort Worth	11,398.92	19,980.87
Roeser & Pendleton, Inc., Fort Worth	538,386.62	963,689.11
Rio Grande Petroleum Corp., Houston	5,379.12	6,419.92
Ross, C. E., Burkburnett	655.22	948.31
Rex-Tex Oil Co., Winchester, Ky.	60,143.95	122,111.11
Ryan Consolidated Petroleum Corp., Bartlesville, Okla.	65,086.33	104,670.47
Rycade Oil Corp., Houston	123,560.26	166,908.30
Ramming, R. W., Wichita Falls	9.98	18.42
Rowe, M. D., Wichita Falls	1,317.65	2,424.66
Rainer & Bailey, Wichita Falls	4,340.12	8,583.40
Robinson, O. D., Pittsburgh, Pa.	1,778.00	2,659.85
Ramming, Saley & Ramming, Wichita Falls	869.31	1,694.98
Ramming, W. F., Wichita Falls	30.18	58.99
Ramming & Saunders, Wichita Falls	8,843.54	17,836.17
Ramsel, W. T., Oil Co., Rockdale	4,499.40	8,233.90
Ross, Amigos Oil Co., Laredo	11,312.17	14,016.33
Ross, Segunda Oil Co., Laredo	1,411.20	1,794.50
Russell Sanderson Oil Co. No. 2, Fort Worth	1,029.79	1,768.41
Rockwell, J. A., & Co., Warren, Pa.	3,412.01	5,882.59
Robert Oil Corp., Breckenridge	13,570.15	24,042.75
Rex Petroleum Corp., Orange	45,146.47	60,846.43
Rockdale Development Co., Inc., Rockdale	2,321.57	4,172.32
Rhodes & Highers, Breckenridge	7,388.95	12,930.57
Robinson, J. B., attorney, Sour Lake	683.54	946.96
Ray & Massie, Wichita Falls	25,287.83	.....
Rayzor, J. P., Wichita Falls	352.41	726.18
Red Bank Oil Co., Tulsa, Okla.	41,337.22	76,053.94
Roxana Petroleum Corp., St. Louis, Mo.	698,873.35	880,797.32
Ray Featherstone Oil Co., Wichita Falls	4,200.85	7,874.72
Richards, C. F., trustee, Lockhart	15,828.15	19,473.58
Russell & Wilson, Wichita Falls	17,614.31	29,076.61
Ruthada Oil Co., Oklahoma City, Okla.	17,985.62	23,884.81
Rio Bravo Oil Co., Houston	1,579,034.84	2,401,213.02
Ronson-Thompson, Mexia	5,078.83	8,963.29
Rentax Oil Co., San Antonio	11,241.29	17,723.13
Ruyle Farm Oil Co., Wichita Falls	8,917.47	16,828.76
S		
St. Marys Oil & Gas Co., St. Marys, W. Va.	22,825.64	38,825.64
Staley, J. L., & Co., Wichita Falls	6,430.14	11,625.44
Staley Wynne & Co., Wichita Falls	47,946.98	64,245.46
Stratton & Duncan, Cross Plains	429.42	667.48
Somerset Oil Co., San Antonio	1,331.13	1,984.26
Star Drilling Co., Wichita Falls	8,430.65	15,967.55
Seaboard Oil & Gas Co., Wichita Falls	42,034.08	77,420.89
Sun Oil Co., Dallas	346,607.31	535,878.74
Sindorf & Sindorf, Caddo	1,099.88	1,874.47
Schermerhorn Oil Co., Tulsa, Okla.	1,724.47	2,987.68
Snider, C. W., Wichita Falls	1,831.08	3,658.45
Speed, C. D., Corsicana	200.81	345.29
Shertzer Brothers, Dewey, Okla.	12,803.27	23,114.42
St. Albans, Edward, Laredo	9,898.02	11,533.93
Schaffner, E. N., et al, Cross Plains	1,424.66	2,665.59
Beggs, George (Strip), Fort Worth	2,244.49	4,560.20
Stella Oil Co., Beaumont	16,887.43	22,675.72
Shasta Oil Co., Clifford Moores et al, Wichita Falls	4,455.76	7,928.27
Sircovich & Thomas	1,649.06	2,279.09
Simms Oil Co., Dallas	542,085.10	834,273.61
Smith, E. L., Oil Co., Mexia	64,007.06	117,678.98
Sedwick Oil Co., Tulsa, Okla.	15,512.33	26,194.57
Summit Oil Corp., Amarillo	38,660.66	46,115.11
Stovall, E. C., Graham	94,990.67	194,910.88
Saunders, John R., Wichita Falls	30.18	58.99
Sinclair Oil & Gas Co., Houston	116,392.18	163,610.01
Sinclair Oil & Gas Co., Tulsa, Okla.	385,786.62	701,078.11
Sullivan, M. J., Kansas City, Mo.	452.88	709.61
Snowden & McSweeney Co., New York, N. Y.	48,898.00	93,912.86
Smith, McIntosh & Thomas, Cameron	3,367.57	5,913.59
Stroube & Stroube, Corsicana	57,020.82	102,645.95
San Bait Petroleum Co., Kansas City, Mo.	735.24	933.76
San Bernard Oil Co., Beaumont	2,575.66	3,783.66
Smith-Hanlon, Inc., Tulsa, Okla.	175.13	302.81
Summerfield Oil Co., Tulsa, Okla.	320.38	578.85
Schaffner-Wilson et al, Wichita Falls	7,722.84	16,456.62

Modern Rig Lighting Means Type "M2-S"

THE newest Pyle-National rig lighting unit is Type "M2-S." It is the latest refinement of the proved Type "M-2" which has made such remarkable records for performance during the past year.

Type "M2-S" is equipped with a standard safety switch and fuse box mounted directly upon the frame of the unit. The operating advantages of Type "M2-S" are exactly the same as the Type "M-2."

With this safety switch and fuse box, this unit is now complete and self-contained, making a permanent, fool-proof installation. Ready to run all the lights you want. Capacity 2500 watts is ample for any demands of rig lighting, including the use of the newest method—floodlighting.

See the Type "M2-S" and find out for yourself why so many experienced operators will have nothing else. Descriptive literature will be sent on request.

The Pyle-National Company

1334-1358 N. Kostner Avenue, Chicago, Ill., U. S. A.

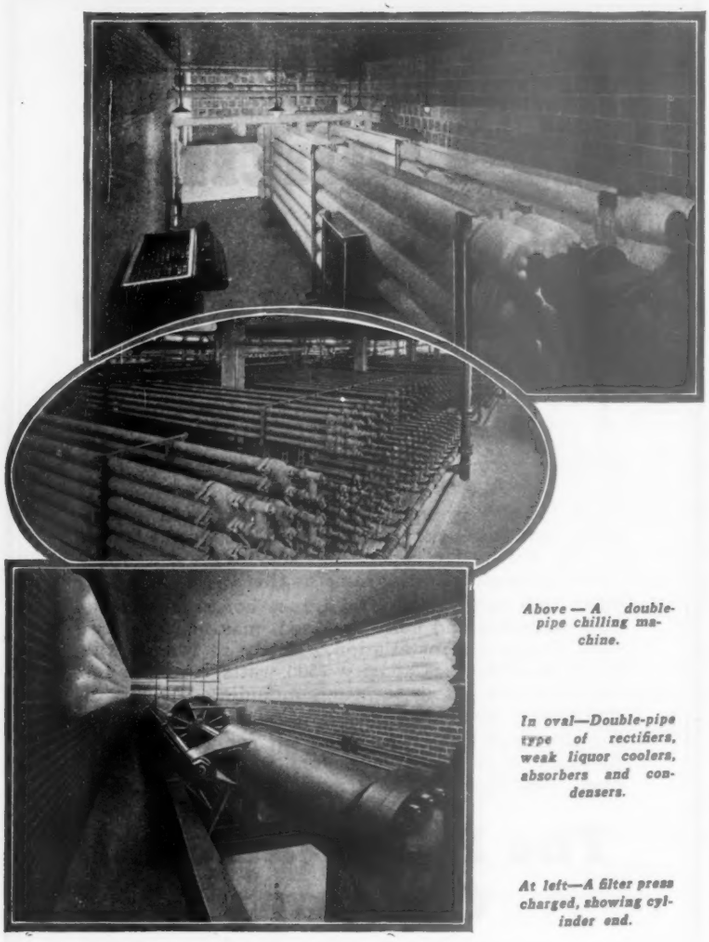
Direct Factory Representative:
C. T. TEWKESBURY, 123 E. Jasper St., Tulsa, Oklahoma

Export Department:
International Railway Supply Company,
30 Church Street, New York City

Canadian Agents:
The Holden Company, Ltd., Montreal, Winnipeg, Vancouver, Toronto

New!
Type M2-S

O&GJ 5-26 Gray



Above — A double-pipe chilling machine.

In oval—Double-pipe type of rectifiers, weak liquor coolers, absorbers and condensers.

At left—A filter press charged, showing cylinder end.

Gulf Refining Chose Carbondale

Supreme Auto Oil owes its popularity to proven lubricating qualities. It can be depended upon for consistent performance.

The same may truthfully be said of Carbondale Refrigeration. Refiners know from experience that Carbondale Machinery will give the same dependable service, year after year.

The fact that plants in operation for more than 30 years are still giving satisfactory service, testifies to the quality of performance which may be expected.

CARBONDALE MACHINE COMPANY
Carbondale, Pa.
Branches in Principal Cities

Carbondale Refrigeration
CARMACO *for Refiners*

Name and Address—	Barrels	Value
Saratoga Oil Co., Wichita Falls	2,414.10	4,521.37
Slick, T. B., Oklahoma City, Okla.	14,071.35	27,171.53
Shaw, Fox & Adams, Burkett	3,915.99	5,769.67
Shaw, Archie, Burkett	16,076.30	26,921.72
Shuler-Davies & Co., Brownwood	2,698.23	4,255.64
Swastika Petroleum Corp., Wichita, Kans.	1,018.78	1,835.66
Security Drilling Co., Wichita Falls	907.66	1,820.29
Shaw & Rathke, Wichita Falls	35,818.64	71,705.22
Swensondale Oil Co., Caddo	13,002.27	22,859.89
Superior Oil Producing Co., Lexington, Ky.	2,741.75	4,868.70
Southern Crude Oil Purchasing Co., Shreveport, La.	16,076.30	13,618.29
Sheldon, W. J., Electra	5,919.60	11,117.52
Southern Exploration Co., Houston	2,128.25	3,082.74
Sink, Joel, Corsicana	193.00	330.00
Silk, Bullington & Clark, Wichita Falls	8,220.64	9,595.56
Stock, E. L., Cisco	4,233.22	8,774.04
Sunny Jim Oil Co., Tulsa, Okla.	3,164.88	3,734.56
Silk, W. W., Wichita Falls	192.51	355.77
Skelly Oil Co., Tulsa, Okla.	710,734.50	933,230.87
Swicegood, F. L., Eastland	189.14	441.56
Sommer, M. E., Moran	703.78	1,596.38
Stull, R. O., Wichita Falls	17.11	30.07
St. Louis Oil & Development Co., Wichita Falls	638.87	1,103.44
Stafford & Hayes, Graham	468.74	663.39
Straus-Allen Oil Co., Wichita Falls	1,386.64	2,911.97
Schlicher Oil Co., Beaumont	1,191.43	1,673.65
Standard Oil Land & Leasing Co., Electra	340.50	638.16
Shackelford Oil Co., Putnam	3,575.87	5,707.91
Strawn Petroleum Co., Denver, Colo.	6,988.04	13,101.90
Southern Petroleum Exploration, Inc., Abilene	576.00	981.56
Shappell Oil Co., Wichita Falls	64,888.55	122,629.20
Staley, J. A., Wichita Falls	4,259.60	8,484.02
Skinner, E. W., Oil Co., Saratoga	3,819.62	4,938.40
Sessions, I. P., Rockdale	515.77	957.21
Salado Oil Co., San Antonio	2,088.40	3,364.76
Staley Mashburn Oil Co., Wichita Falls	273.75	481.35
Somerset Crude Oil & Refining Co., Somerset	4,301.82	6,682.46
Strelsky & Gamble, Rockdale	627.30	1,066.41
Supreme Oil Co., Orange	4,983.52	6,756.58
Shemen Oil & Gas Co., Pittsburgh, Pa.	113.87	215.75
Somerset Oil Co. of Mass., Easthampton, Mass.	176.12	249.52
Smith, J. L., Amarillo	17,038.46	20,058.48
Swanner, John L., Wichita Falls	3,222.44	5,946.68
Scarbrough, W. A., Burkburnett	3,013.30	4,887.53
Smith & Bynum, Amarillo	4,668.23	5,297.29
Seybert Bros. & Barger, Mooringsport, La.	2,007.24	4,362.24
Sigler Oil Co., Inc., Wichita Falls	1,594.60	2,567.78
Stoops, J. P., Ranger	396.90	647.07
Spring Creek Oil Co., Amarillo	44,190.66	54,113.95
Schulz & Pois, Wichita Falls	1,061.32	2,006.69
Sunburst Oil Co., Amarillo	23,432.44	29,501.23
Stidham & Thrasher, Electra	1,168.09	2,095.56
Silurian Oil Co., The, St. Louis, Mo.	4 267.09	7,578.51
Smith, M. L. V., Vernon	752.50	1,310.98
Stribling, J. C., Llano	6,252.51	11,750.86
Simmons, T. K., Tulsa, Okla.	2,409.60	4,393.04
Schoolfield, R. E., Wichita Falls	200.57	346.97
Scott & Britton, Graham	176.85	286.59
Skia-Tex Petroleum Co., Amarillo	75,975.10	88,113.51
Skelly Oil Co., Tulsa Okla.	370,824.65	467,609.16
Stephens Oil Co., Sour Lake	572.20	758.67
Sheldon, C. P., Drilling Co., Electra	12,444.70	21,884.46
T		
Teatsorth, L., et al, Eastland	3,430.03	6,635.20
Texas Development Co. et al, Eastland	284.41	496.47
The Texas Company, Houston	3,022,818.65	4 778,137.75
Thaxton, W. H., estate, Austin	315.24	605.26
Texas Standard Oil Co., Houston	1,463.50	3,288.11
Two Republic Oil & Gas Co., Laredo	9,947.20	11,772.78
Trinity Townsite Co., Dallas	1,087.41	2,145.54
Texota Petroleum Co., Electra	584.25	1 084.45
Trans Bay Oil Co., Galveston	90.00	108.00
Trimont Petroleum Co., Shreveport, La.	9,949.91	20,276.53
Texas Oil Corp., Dallas	314.32	509.29
Turman & Maxwell, Fort Worth	1,823.57	2,055.83
Turman, L. C., Fort Worth	1,508.16	1,526.53
L. C. Turman, Fort Worth	15,820.25	13 442.18
Tillery, L. J., Oil Co., Beaumont	3,833.40	5,077.94
Texas Petroleum Development Co., Cameron	8,866.94	16,274.47
Talley, Oscar, trustee, Burkburnett	350.00	667.80
Tannehill, L. B., Albany	21,238.99	38 004.73
Tolbert, Johnnie Oil Co., Midlothian	1,428.00	2,915.35
Thompson & Cooke, Sherman	854.88	1,520.51
Triangle Oil Co. of Amarillo, Amarillo	64,671.36	79,816.71
Taylor-Sibley Syndicate, Dallas	2,059.84	3,789.93
Texas Southern Oil & Development Co., San Antonio	1,841.70	3,100.83
Theis Oil Co., Sour Lake	4,500.66	6,033.68
Triangle Oil & Gas Co., Rockdale	5,278.48	9,858.76
Texas Fidelity Oil Corp., Louisville, Ky.	33,262.77	63,045.55
Tillman, J. W., Humble	334.51	450.74
Texas Electric Co., Columbus, Ohio	356.59	671.40
Triangle Oil Co., Wichita Falls	765.83	1,423.21
Trinity Production Co., Wichita Falls	751.67	1,346.53
Texas Pacific Coal & Oil Co., Thurber	241,261.01	479,286.24
(Other companies) for Texas Pacific Coal & Oil Co., Thurber	102,742.75	186,476.86
The Triangle Petroleum Co., Inc., Fort Worth	1,513.95	2,408.05
Travelers Oil Co., Amarillo	25,550.74	30,338.70
Triangle Oil Co., Brownwood	8,260.67	16,164.24
Tegler, F. E., San Antonio	134.00	201.00
Texon Oil & Land Co. of Texas, Big Lake	2,974.29	3,211.14
Tidal Oil Co., Tulsa, Okla.	178,386.27	277,965.38
Texas Consolidated Oil Co., San Francisco, Calif.	16,135.54	30,418.70
Tidal-Osage Oil Co., Tulsa, Okla.	17,902.71	34,608.80
Timblin, W. E., Wichita Falls	166.96	298.60
Tholl Oil Co., Beaumont	6,344.99	12,372.91
Tucker & Langford, Inc., Wichita Falls	59,599.47	108,099.33
Thomasson, E. M., & Co., Inc., Denver, Colo.	1,909.22	3,407.01
Tidwell, H. L., trustee, Graham	933.88	1,696.60
Tidwell, R. V., trustee,	6,149.09	11,071.07
Transcontinental Oil Co., Tulsa, Okla.	236,627.12	425,564.62
Transcontinental Oil Co., Tulsa, Okla.	7,165.77	12,187.77
Texana Oil & Refining Co., Wichita Falls	621.15	1,182.49
Texas Unity Oil Co., Dallas	6,628.20	13,020.75
Terry, H. M., Sour Lake	9,591.41	12,324.24
Tucker, W. B., Dallas	1,520.34	2,551.96
Tucker & Fox, Dallas	3,362.11	5,878.45
Tyson Oil Co., Sour Lake	672.63	897.56
U		
United Petroleum Co., Brownwood	195.26	383.58
Underwood Drilling Co. (Erwin lease), Wichita Falls	962.52	1,780.65
Underwood Drilling Co. (Ward lease), Wichita Falls	4,495.97	7,238.49
United Petroleum Co., Brownwood	118.00	192.35
Upham Gas Co. of Texas, Wichita Falls	101.72	173.94
United Oil & Fuel Co., Sour Lake	2,240.86	2,986.51
Union Production Co., Rockdale	4,974.76	9,123.37
U. S. Texas Oil Corp., Dallas	2,812.88	4,866.87
Unity Oil Co., Beaumont	23,643.84	31,281.91
Ungren & Frazier, Putnam	352.63	556.43
Unice & Carpenter, Houston	22,857.13	40,182.53
V		
Vacuum Oil Co., Houston	15,315.41	20,854.18
Val Verde Oil Co., Del Rio	2,706.00	4,192.95
Vergate Oil Co., Tulsa, Okla.	5,830.73	10,564.53
Virginia Oil Association, Fort Worth	3,788.62	7,226.26
Vancleave Trust, Baltimore, Md.	682.37	1,268.41
W		
West, J. F., Cisco	187.61	367.96
Weber, Howard, trustee, Bartlesville, Okla.	6,832.14	11,406.31
White & Duncan, Wichita Falls	4,483.79	6,608.02
Wood, Benton, Lesh & McCall, Nocona	17,897.23	26,041.44
Weed-Gayle Oil Co., Beaumont	51,554.76	70,698.69
West, Bessie M., December 31, 1926), Houston	1,743.00	2,440.20
White, P. J., et al (December 31, 1926), Wichita Falls	21,539.00	51,871.22
Webb Oil Co., Humble	3,965.24	5,287.90
Watkins, J. A., Wichita Falls	506.51	947.13
Williamson & Clark (December 31), Dallas	2,011.25	5,536.57
Williamson Petroleum Co. (December 31), Dallas	13,017.09	33,320.09
West Production Co., Houston	10,494.63	14,062.80
Weldon Oil Co., Saratoga	9,271.79	10,444.22
Waggoner Refining Co., Electra	27,903.77	48,257.13
Witcher, Annie L., guardian, Wichita Falls	3,101.87	6,137.49
Witcher & Michel, Wichita Falls	339.20	613.50

PHILLIPS PETROLEUM COMPANY
New Building

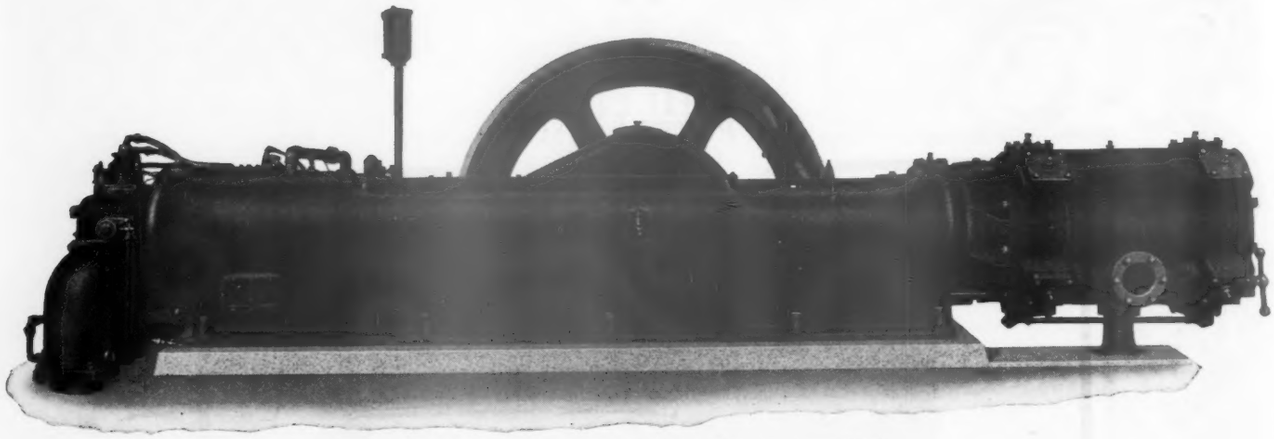
General Offices
Bartlesville Okla.

PHILLIPS PETROLEUM COMPANY

Producers of high grade crude oil and manufacturers of natural gasoline

Straw and clay made the bricks—mortar bound them together—but crude oil and natural gasoline raised them from the ground.

PLANTS- LOCATED IN OKLA., TEXAS, LOUISIANA AND NEW MEXICO



Side View Gas Engine Driven Compressor Unit

TAKE NOTHING FOR GRANTED!

The Operator who buys gas engine and compressor equipment solely on a basis of price is very likely to find out later that he has made a serious mistake.

A comparatively small saving on the initial cost is too likely to be offset many fold by radical differences in performance.

Of far greater importance than mere price are factors like these—every one vitally important:

Comparative records on the capacity various competitive units are actually capable of delivering.

Comparative records on non-stop, uninterrupted operation—as influenced by breakage or freedom therefrom.

Comparative records on economy of operation and maintenance expense.

Considerations like those, taken in relation to price (not price alone) should be weighed with the greatest care. In other words, take nothing for granted and there will be no regrets later on.

Watts-Miller welcomes any investigation you may make on these, and any other points, that may occur to you.

Tulsa, Okla., Office
323 N. Cheyenne Ave.

Los Angeles Office
807 San Fernando Bldg.

The Miller Improved Gas Engine Co.
Springfield, Ohio

WATTS GAS ENGINES AND COMPRESSORS MILLER

Name and Address—	Barrels	Value
Watson, W. B., Fort Worth	1,200.00	1,500.00
Wightman, G. W., Wichita Falls	397.74	496.15
Wickett, F. H., Shreveport, La.	1,831.98	2,157.18
Woods & Bennett, Humble	6,412.55	8,664.45
Wilson Drilling Co. (K. K. B.), Wichita Falls	2,115.60	3,959.76
Wilson Drilling Co. (Comet), Wichita Falls	5,132.24	9,648.51
Wilson Drilling Co. (K. K. A.), Wichita Falls	2,499.50	4,702.03
Wilson Drilling Co. (Snedeker), Wichita Falls	957.15	732.48
Weller, J. G., et al, Cross Plains	2,408.11	4,689.05
Willis Oil Co., Rockdale	4,193.47	7,655.53
Wichita Petroleum Co., Tulsa, Okla.	3,830.53	6,901.36
Wakefield, M. E., et al, Cross Plains	7,372.55	14,164.30
Wilson-Broach Company, The, Beaumont	15,840.00	21,271.06
Worth Oil Co., Wichita Falls	144.00	230.40
West, Bessie M., Houston	2,017.66	2,710.11
Woodburn Oil Corp., Dallas	9,246.33	16,943.23
Wichita Production Co., Wichita Falls	17,295.55	31,981.41
Wo-Mac Oil Co., Wichita Falls	4,055.41	6,597.10
White, P. J., et al, Wichita Falls	20,629.11	39,490.43
Wilson Drilling Co. (Rathke), Wichita Falls	4,785.28	8,952.30
Westervelt-Noble et al, Oklahoma City, Okla.	4,869.92	8,773.06
Wheelock & Collins, Corsicana	28,017.87	50,080.68
Wilcox Oil & Gas Co. of Texas, Tulsa, Okla.	198,378.97	301,533.26
Williams, John H., Dallas	6,379.77	11,446.77
Wahpoo Oil Co., Rockdale	4,709.97	8,856.88
White Eagle Oil & Refining Co., Kansas City, Mo.	172,596.00	206,620.66
Waggoner, R. M., special, Wichita Falls	3,131.08	5,857.12
Weller, H. J., Wichita Falls	430.67	599.73
Wootten, Reed, et al, Graham	1,522.74	2,565.12
Wilson-King et al, Wichita Falls	17.08	30.02
World Oil Co., Fort Worth	6,805.97	8,291.71
Witherspoon Oil Co., San Antonio	53,081.36	86,942.69
Williamson Petroleum Co., Dallas	7,671.77	16,198.91
Wilson, Edwards R., estate, Oklahoma City, Okla.	656.26	1,193.08
Wentz, L. H., Ponca City, Okla.	41,890.57	61,555.87
Walker, B. S., Breckenridge	1,491.87	2,558.27
Why Not Oil Co., Inc., Mexia	8,935.94	16,327.76
Westheimer & Daube, Ardmore, Okla.	1,543.84	2,665.99
White, J. M., El Dorado, Ark.	406.50	665.77
Wampem Oil Corp., Dallas	3,365.19	6,443.17
Weaver & Pois, Wichita Falls	7,642.62	14,035.84
Wald, C. A., Cisco	.....	3,645.82
Wallace, Dr. Chas. Wm. and wife, Wichita Falls	43,056.16	80,117.27
West, J. H., Cisco	5,240.95	10,953.30
Western Oil Sales Corp., Wichita Falls	2,135.69	4,123.53
Whitehill, B. F., Tulsa, Okla.	7,002.21	13,064.08
Wise & Jackson, Sapulpa, Okla.	4,148.45	7,210.46
Wood, H. J., trustee, Cisco	318.54	539.75
Western Oil Corp. of Texas, Wichita Falls	29,470.19	47,210.64
Wilkins, L. A., Burkburnett	2,141.40	3,597.55
Walker, Hall, Ranger	852.16	1,410.33
Whaley Mineral & Realty Trust, Fort Worth	4,270.98	7,699.60
Williams, Burt, Wichita Falls	1,440.03	2,432.94
Y		
Yount Lee Oil Co., Beaumont	4,169,962.82	6,445,241.89
Yuba Oil Refining Co., Nacogdoches	238.00	476.00
Z		
Zadie Belle Oil Co., Fort Worth	604.17	1,452.71
SUPPLEMENTAL		
Echo Oil Co., Amarillo	166,333.79	194,518.05
Wolf, A. T., & Son, Wichita Falls	4,911.47	5,831.45
Valley Oil Co., Wichita Falls	11,608.17	20,983.83
Horn & Horn, Kansas City, Mo.	522.42	1,037.86
Lake Shore Oil Co., Houston	.....	.....
McKanna, Jas. E., Wichita Falls	.....	.....
Pinto Oil Co., Mineral Wells	453.96	703.63
Burkburnett Jr. Oil Co., Fort Worth	317.21	532.63
Phillips, J. R., Amarillo	125,536.75	146,469.64
Golconda Oil Co. No. 1, Wichita Falls	102.41	174.73
Chuck & Bush Oil Co., Waco	150.00	195.00
Dixon & Reeder, Wichita Falls	290.82	406.64
Hope Petroleum Co., Tulsa, Okla.	55.32	97.48
Kemrow Company, Wooster, Ohio	14,141.21	26,612.79
Fly-Blackburn Oil Co., Amarillo	6,580.95	7,977.06
Maben Oil Corp., Wichita Falls	359.72	566.36
Wolf, A. T., & Son, Wichita Falls	4,911.47	5,831.45
Total	51,078,427.03	$75,633,853.42

MICHIGAN FIELDS

(Continued from Page 65)

Berea at 1,816 feet and going 18 feet in the sand, the well showing for 12 bbls.

Nearing Completion

There are a number of wells due to reach the Berea sand pay within a few days, if no bad luck is had. The Ohio Oil Co.'s No. 1 on the A. Kull 20 acres, in the NW Section 11, Saginaw Township, and 1,000 feet northwest of the Sun Oil Co.'s Saginaw sand well on the Ferdinand Stelzreide farm, failed to show any oil in the Berea sand and is due to reach the deeper Saginaw sand within a few days. The Ohio Oil Co.'s No. 5 on the Mershon-Eddy-Parker property, is another due within a few days in the Berea sand. Wayco Oil Producing Co.'s No. 2 Braun property, north of Weiss Street and east of Eddy Street, is nearing the Berea, but the owners state the well will be drilled through the Berea into the Saginaw sand. This location is about two blocks north of the Western Drilling Corp.'s Saginaw sand well on the Labuda property that did 70 bbls. initial from the deep formation.

The Sun Oil Co. should reach the sand in a few days in its No. 1 on the H. Diebel 20 acres, in the S half NW NW, Section 10, the farthest northwest development in the field at this time.

Cavanaugh Oil Co. is nearing sand near North Michigan Avenue and Clark Street. Burdow Brothers are close to sand with No. 1 on the Gelinas property, on North Michigan Avenue, near Davenport Street.

A. J. Benjamine, trustee, is due to complete No. 1 on the Benjamine property, corner of Michigan and Irving Streets, at any time, the top of the sand being found at 1,810 feet.

Dundee Sand Showing

Much interest is manifested in the Bliss Petroleum Co.'s second well on the Fred Engle farm, Section 10, Saginaw Township, which tapped the top of the Dundee sand at 2,934 feet and drilled 43 feet in to a total depth of 2,977 feet, there being 24 feet of pay sand showing in the hole, which when given a shot may develop into a commercial producer. This well is in the far western part of the pool and may develop something worth while to further test the deeper sand.

Meanwhile efforts to clean up casing difficulties on the Dundee sand well of the J. & S. Development Co., on the John Sliva property at Deindorfer and Charles Streets, were successful and the coming week is expected to bring more definite information than has yet been available as to what this well will do. The bottom section of the 6-inch pipe was collapsed by the shot and considerable difficulty was experienced in pulling it, but the pipe was taken out and the casing reset.

Town Lot Drilling

City Attorney Kendrick was instructed by the Saginaw City Council to ascertain the city's legal authority to prohibit, regulate or restrict the drilling of oil wells within the city limits. This request came as the conclusion of a discussion of two petitions now before the council, asking the restricting of further drilling of oil wells in the residence section of the north end.

So far as can be ascertained there is no statute in Michigan pertaining to oil drilling, excepting one now before the legislature, which places regulation of wells already drilled in the hands of the conservation department, but only for the purposes of procuring geololgical data and requiring abandoned wells to be plugged properly. The city attorney will attempt to learn how other cities in or near oil fields regulate drilling within city limits.

Various opinions were suggested as to how the north end residents might be

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given relief, the most prevalent being that it might be restricted in the zoning ordinance which is about ready to be submitted to the council by the City Plan Commission. It also was suggested that a percentage of the property owners surrounding a proposed oil well location might be given the power to permit or deny the drilling of any well, as is the case in the Penney bill regarding the establishing of gasoline filling stations. City Attorney Kendrick said there was considerable doubt in the legal fraternity as to the constitutionality of this law should it ever be tested.

Field Notes

Another downtown Saginaw well on the east side of the Saginaw River is to be drilled by Morley Brothers in the rear of the company's electrical department between Federal and Genesee Avenues. This is the fourth well to be undertaken on the east bank of the river and the first to the south of Genesee Avenue. One, that of the Schwinck Oil Co. near the foot of Tuscola Street, is already in and a good producer, and the Fordney Petroleum Co.'s No. 1 on the Oakland Vinegar & Pickle Co.'s property on North Water Street, is better than 25 bbls. Another is being drilled by Charles A. Schwartz on the Schwartz Brothers property at 302-315 North Water Street.

The Sun Oil Co.'s wildcat, near the town of Ashley, in the southeastern part of Gratiot County and northwest of Owosso, struck a heavy gas flow at a shallow depth of 470 feet. The well was capped and later on will be drilled to a greater depth. It may mean the opening of a shallow gas field of importance.

Two new rigs are being put up by the Fordney Petroleum Co., both on city lots. One is on the Greencorn property on the east side of North Bond Street between Reed and Weiss Streets, the other being on property on the east side of Oakley Street between Pleasant and Reed Streets.

Jack Hendricks and others have leased a tract of river front property belonging to Daniel J. Campau, on the west bank of the Saginaw River just south of the Grand Trunk bridge, and plan to drill four wells upon it.

The Schust Co. will within the next few days start a first well on its property near the foot of Congress Avenue, the location to be about 200 feet north of the location on which the Benjamine interests are about due to complete a well on the Benjamine property.

Snapping of a guy wire under heavy strain is believed to have caused the pulling down of a rig on the Ohio Oil Co.'s location on the southeast corner of Pleasant and Oakley Streets. Efforts were being made to pull the 8-inch pipe preparatory to plugging and abandoning the well, which has been the subject of injunction proceedings. The guy wire broke and the mast snapped, bringing down other parts of the rig with it. Men working on the well jumped and escaped unhurt.

EASTERN FIELDS

(Continued from Page 65)

district, the Rugged State Development Co. has rigged up for a test on the Clay Spriggle farm. In the same district and county, on the John A. Dodds farm, the Oakland Development Co. is getting ready for No. 1, and has finished location for its test on the J. A. Cooper farm.

The Clifton Oil & Gas Co. has completed the rig for its test on the J. S. Snider farm, Mannington district, Marion County. On the waters of Yellow Creek, Sheridan district, Calhoun County, the Hope Construction & Refining Co. has completed the rig for its No. 1 J. P. Knight heirs farm. In Geary district, Roane County, G. L. Cabot has completed a rig on the John Smith farm, and has material on the ground for his well on the Rex Smith farm. William Frey and others have a rig standing on the M. P. Church lot, Freemans Creek district, Lewis County. In Geary district, Roane County, the Morley Oil & Gas Co. has completed a rig for a test on the Sergent School lot. In West Union district, Doddridge County, the Clifton Oil & Gas Co. is building a rig for No. 1 T. A. Smith farm.

The Funk and Null test, on the W. O. Mayne farm, Mannington district, Marion County, is drilling at 3,390 feet and is about due. The Ohio Fuel Oil Co. has material on the ground for a test on the A. C. McKinley farm, Sherman district, Calhoun County. The Chemical Oil Co. has a rig standing for No. 1 Bennett-Sanders, Sheridan district, Calhoun County. In Lee district, Calhoun County, G. L. Cabot has rigged up for his test on the Floyd Barr farm.

Patterson and McCracken have a rig standing for No. 1 on the W. F. Taylor farm, Batelle district, Monongalia County. G. L. Cabot has a rig up and part of the tools ready for his test on the Eagle Coal Co. property, Kanawha district, Fayette County. The Manufacturers Light & Heat Co. has a rig standing on the J. F. Snyder farm, No. 1, Church district, Wetzel County.

The Carlton Oil & Gas Co. has completed a rig for No. 2 on the J. W. Harbert farm, Ten Mile district, Harrison County.

Southwest Pennsylvania

The extension of the old Nineveh Pool in Morris Township, Greene County, Pennsylvania, has been declining rapidly the past month. For a while this extension to that pool of many years ago was producing about 20,000 bbls. a month and that from only a few wells. At present, the runs from that district have fallen off to almost half; there is still some drilling going on and quite a few locations, which probably will not be started until the crude market advances.

In Springhill Township, Greene County, Rex Milliken and others completed their test on the Patrick Gump farm in the Injun sand and it is good for 500,000 feet of gas.

In Whitely district, the Carnegie Gas Co. completed a test on the William Fox farm to the 50-foot sand at 3,215 feet, and has a fair gasser. In Perry district, the same company completed a test on the Troy heirs farm to the Injun sand, 2,346 feet, and it is a light gasser, which it is going to drill deeper. Again, the Carnegie Natural Gas Co. completed a test on the Bertha C. Watters farm, Morris district, at 3,301 feet and has a light gasser. The Dunn Mar Oil & Gas Co. completed its No. 2 on the William Hamilton farm, Gilmore Township, at 3,135 feet, and it is a gasser estimated at 400,000 feet.

The Manufacturers Light & Heat Co. is drilling a test on the Samuel and Flora Rutan farm, Allepo Township, Greene County.

KENTUCKY-TENNESSEE

(Continued from Page 64)

division. Four good producers are reported from Ohio County; four small strippers from Allen County and two dry holes in Warren County.

In the Ambrose Pool, in Ohio County, the Ohio Oil Co.'s No. 3, near the northeast corner of the Rodney Taylor 50-acre farm, set a string of 667 feet of casing, struck sand from 670 to 729 feet and went to a total depth of 748 feet where it was given a 180-quart shot, responding with an initial production of 175 bbls. the first 24 hours. No. 4 well, 750 feet from the north line and 200 from the east line of the same farm, set 660 feet of casing, the sand being found at from 662 to 707 feet and drilled to a total depth of 711 feet and with a 180-quart shot, showed an initial of 200 bbls. The Creek Drilling Co. and Hapgood's No. 1, in the northwest corner of the George Early 79 acres, south of the big production on the Weller farm, set a string of 635 feet of casing; got the sand from 635 to 698 feet and went to 699 feet and shot with 150 quarts. The initial production the first 24 hours amounted to 115 bbls. Wood Oil Co.'s second well on the Deane farm is a 75-bbl. initial producer. The Creek Drilling Co.'s No. 1 on the Fannie Lake farm is showing for a nice producer.

Bert Thompson and others are starting

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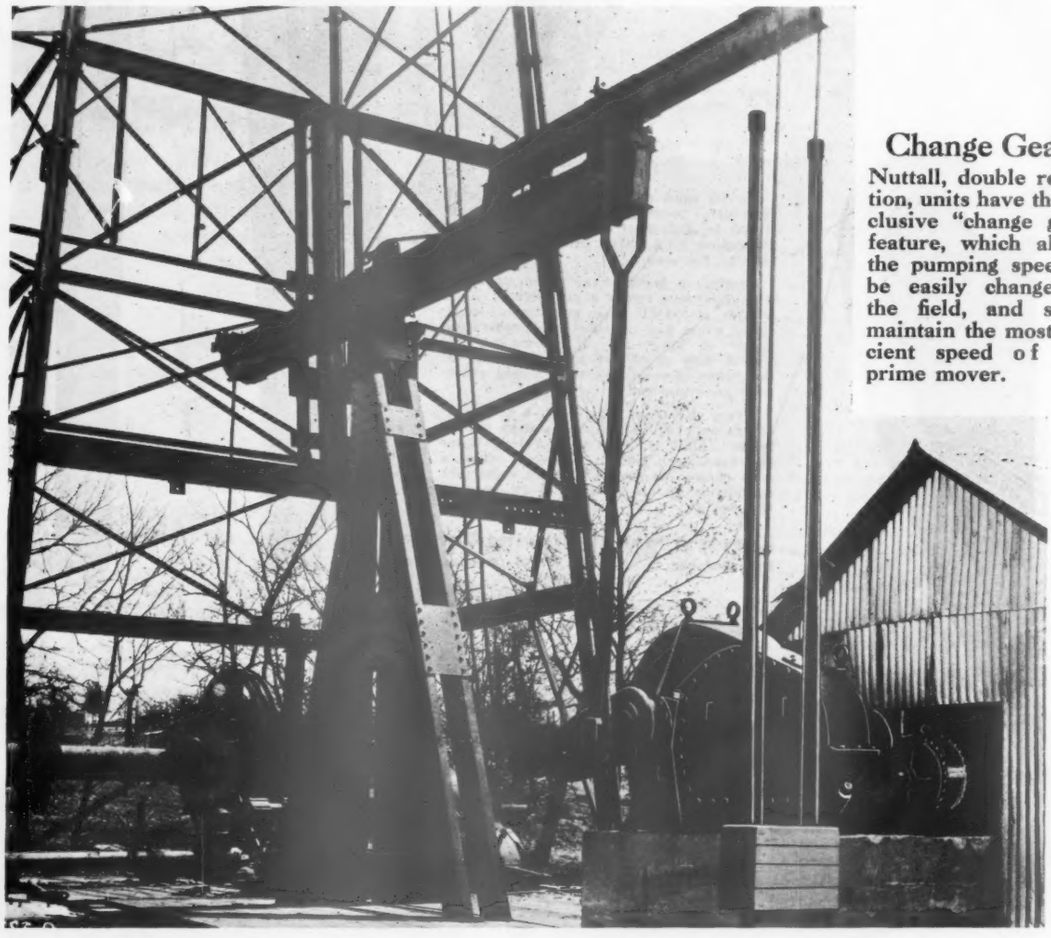

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Nuttall, double reduction, units have the exclusive "change gear" feature, which allows the pumping speed to be easily changed in the field, and still maintain the most efficient speed of the prime mover.

Nuttall

a test on the John Miles farm, about 800 feet west of the Leeper Oil Co.'s No. 3 on the John Roby farm, southwest of Pellville, in Daviess County.

In the Scottsville Field of Allen County, in the Gainesville area, the Grace Oil Co.'s No. 8, on the General Woods 2,700-acre lease, is reported with an initial of 25 bbls. at 333 feet. This lease is now being connected to the Illinois Pipe Line Co. which is making ready to make its first run of oil, with several hundred barrels in storage on the lease. In the same area, Riley Hunt has drilled in his No. 7 on his own farm to a depth of 316 feet and has a 1-bbl. pumper. Harley & Coatsworth's No. 7 on the Lon Oliver farm, is rated at 1-bbl., at 256 feet, and their No. 8 on the W. H. Read farm, at 1 bbl., at 252 feet, with No. 9 drilling.

Warren County

Just out of Alvaton, some 12 miles east of Bowling Green, in Warren County, R. B. Walker drilled a dry hole on the Murray Kirby farm, at a depth of 460 feet. Several years ago a light gas well was drilled upon this same farm, by Cleveland and Toledo, Ohio, parties and the gas for a time was utilized as fuel in the Kirby home. Southwest of Bowling Green, same county, the Penn Oil Producing Syndicate, Inc., drilled No. 7 in the southeast corner of the J. F. Young farm, which proved dry in the deep sand at 1,043 feet. S. E. Silverhorn is drilling No. 3 on the W. H. McGinnis farm. Johnson & Julian are drilling No. 12 J. L. Jenkins farm; W. B. Cauble is drilling No. 3 J. C. Davenport farm; Morrow & Hays drilling No. 1 D. N. Taylor farm and the Cadet Oil & Gas Co. drilling No. 22 on its own property, all in Warren County.

One of the best producing areas of the central portion of Kentucky is along the Wolf River, in Clinton County. McClintock, Reid & Heckathorn's No. 7 on the Pierce Brothers farm, is rated better than 150 bbls., although the well is producing only enough oil to keep the well in good shape. No. 8 same farm, is drilling.

The Oil Fork Development Co., on Williams Prong, in Cumberland County, is not doing any new work but taking care of the production the company has at this time, and making a good showing of what can be done in that territory with light wells when properly handled. Wilcox Brothers are not doing any new work in the same field, but producing oil from wells already under pump, which are reported holding up satisfactorily. In the Sulphur Creek Pool, same county, the Southern Producing & Refining Co. is pumping its wells on the Huddleston & Payne farm which maintains its production above expectations. Crocus Creek Field is quiet due to bad roads, but some new work is being planned. On Williams Prong, James Conner and others are drilling a well on the Frank Key farm, and Smith, Lang & Smith are drilling No. 1 on the Solomon Scott farm.

CENTRAL WEST FIELDS

(Continued from Page 64)

Toledo, are still oil towns after producing oil in their vicinities for more than 38 years. More than 5,000 wells were drilled in the county; some were gushers and others were light pumpers. The largest well in the county was drilled in November, 1894, by Kirbride Brothers, being No. 2 on the Jones farm, in Madison Township, with an initial of what has always been known as 20,000 bbls. in 24 hours and for 30 days maintained a production between 7,000 and 9,000 bbls. daily.

The year of big wells in Sandusky County was 1892 when the field along the Portage River, just west of Woodville, was opened up. Many wells running from 500 up to 2,000 bbls. initial were found, most of them in Woodville Township. The last big well for the county was in May, 1895, when the Ohio Oil Co. struck a 2,000-bbl. gusher in No. 2 on the Reese farm, in the same township.

There are now close to 2,000 wells in the county, with an average production of around one-half-barrel per well. In the early days both gas and oil were used in the making of lime, Gibsonburg and Woodville being the largest lime centers in the world, but coal must now be used for the purpose instead of oil or gas, both products being too expensive the lime men state. During 1926 the two towns produced $9,000,000 worth of lime products.

Indiana

The Turner Oil & Gas Co. has at last drilled its second test in the northeast corner of the Veck-Folson farm, in the NW of Section 7, Pidgeon Township, Warrick County, in southwestern Indiana, to a depth of 1,440 feet and, failing to find a producer, will abandon the project as dry.

Another dry hole has been added to the Veale Township, Daviess County Field, that looked so promising a few months ago. It is the Home Oil Co.'s No. 1 well, 400 feet from the north line and 300 from the west line of the National City Bank Co.'s farm, in the SE of Section 16, which was drilled to a depth of 1,200 feet.

In Barton Township, Gibson County, Bell Brothers' second well, 700 feet from the north line and 690 from the west line of the John Manahan farm, NE of Section 10, proved to be a dry hole at a depth of 1,100 feet. J. S. Young is drilling a test on the William Johnson farm, Section 13, Center Township, same county, and Carter and others are working on a test on the J. and A. Yeager farm, Section 26, Union Township, same county. Enlow and others are shut down at a test on the John Enlow farm, Section 15, Montgomery Township, same county.

Fowlerton Oil & Gas Co. is drilling a test on the Simon Leach farm, in the southeastern part of Grant County, in the old Trenton Rock area of the State. No new completions are reported from Jay and Adams Counties, although several wells are due for completions.

Granville Lee is drilling a second well on his farm, in Ohio Township, Bartholomew County.

Illinois

No doubt the deepest hole ever drilled for oil anywhere in Illinois was the Ohio Oil Co.'s No. 23 well, 1,180 feet from the south line and 240 from the west line of the Jess R. Middagh farm, in the SW of Section 32, Bridgeport Township, Lawrence County. This was an old well drilled from a depth of 1,760 feet to 5,185 feet where an ocean of salt water was encountered. The well has been plugged back to what is supposed to be the McCloskey sand at 1,880 feet and from that depth is making a barrel a day of crude.

In Dennison Township, Lawrence County, the Ohio Oil Co.'s No. 9 well, 800 feet from the south line and 200 from the west line of the C. M. Irwin farm, in NE of Section 36, pumped an initial of 70 bbls. from a sand at 1,560 feet. Same company is drilling No. 17 W. E. Robbins No. 2 farm, Section 27, Dennison Township, as well as No. 7 on the J. E. Buchannan farm, Section 11.

The second venture of Shrider and others in the southwest corner of the west 20 acres of the Luther Houghton farm, in the NW of Section 2, Ashmore Township, Coles County, was drilled to a total depth of 1,860 feet and is a dry hole. H. McCurdy, a well known contributor, made an unsuccessful effort to find oil in several tests drilled in the same township. Later he went to Florida, where he started operations, but is now in the Guernsey County Field of Central Ohio.

In Martinsville Township, Clark County, Rhodes & Keith's test in the northwest corner of the John McNurlin farm, NW of Section 31, pumped 65 bbls. initial from the Niagara Lime formation, just below the Stray sand.

Central Ohio

Only three completions were reported from the Central Ohio Field, owing to the heavy rains and swollen streams, to say nothing of the deep mud. Two were dry holes and one a gas well. Since the last report 11 new wells started drilling and 8 new locations were staked out.

In Brown Township, Knox County, the

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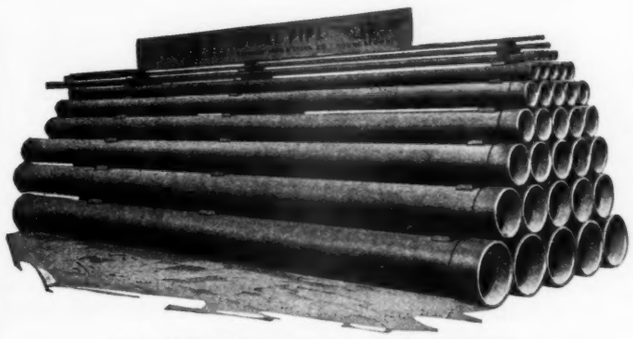

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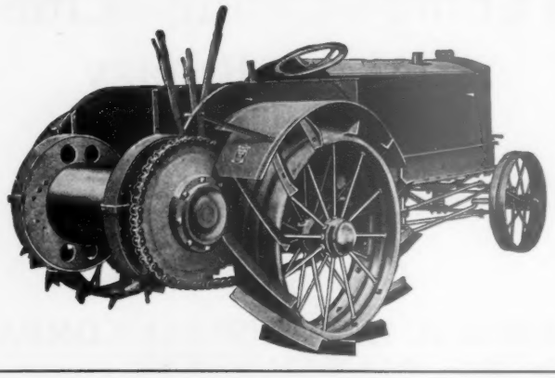

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Upham Gas Co. struck an average gas well at No. 3 in the southeast corner of the Phil Bross 40 acres, Section 36. In Jefferson Township, same county, the same company is drilling No. 1 in the southeast corner of the John C. Ryburn 40 acres, and No. 2 in the northeast corner of the Catherine Logsdon 25 acres, both in Section 11.

In Medina County, Lafayette Township, Daugherty Brothers' second test, 300 feet from the south line and 1,010 from the east line of the Atlas J. House 50-acre farm, Section 9, was a dry hole. In Chatham Township, E. R. Edson & Son Co.'s No. 4 well, 100 feet from the north line and 1,380 from the south line of the Wirtz-Packard farms, Lots 4 and 5, was a dry hole at 390 feet. Empire Gas and Fuel Co. made a location for a test in the northwest corner of the J. N. Ganyard 100 acres, Lot 35, Grange Township, same county.

In Orange Township, Ashland County, the Logan Gas Co. is drilling No. 1 in the northwest corner of the J. E. Shopbell 130 acres, Section 5. Ohio Fuel Gas Co. is drilling No. 1 near the southeast corner of the D. E. Sidle 80 acres, Section 25, Hanover Township, same county. In Sullivan Township, the Logan Gas Co. is drilling Uo. 2 in the southwest corner of the W. J. Haronot 52 acres, Lot 82. In Clear Creek Township, same company is drilling No. 1 in the southwest corner of the Lewis A. Bahn 80 acres, Section 12. Same company is drilling No. 1 Harriett and I. C. Charles 170 acres, Section 31, Green Township, and No. 1 on the Daniel Dennis 70 acres, Section 27, same township. Same company made a location for a test in the southwest corner of the Fred Sniveley 40 acres, Section 34, same township. The Kemrow Co. is drilling No. 1 in the southeast corner of the Glen Calhoun 31 acres, Section 10, Clear Creek Township.

The Ohio Fuel Gas Co. has made two new locations in Lorain County. In Grafton Township, location for a test has been made 950 feet from the south line and 300 from the east line of the W. A. Law 20 acres, Lot 70, and for a test 300 feet from the south line and in the center of the east and west line of the G. H. Weitzel 49 acre farm, Lot 16, Columbia Township.

In Holmes County, Hardy Township, the Empire Gas & Fuel Co. made a location for No. 6 in the southwest corner of the Delpha Nethrow 162 acres, Lot 10 and a location for a test in the southwest corner of the John Bucklew 23 acres, Section 3, Mechanic Township, same county.

In Monroe Township, Coshocton County, the Empire Gas & Fuel Co. is drilling its test in the center of the C. M. Parks 40 acres, Section 10. Logan Gas Co. made a location for a test in the northwest corner of the Oliver Borden 88 acres, Section 18, and the East Ohio Gas Co. made a location for a second test 880 feet from the east line of the M. J. Nyhart 122 acres and 20 feet south of the township, line in Section 1.

Arthur & Simpson are drilling their initial test 900 feet north of the road and 60 feet from the east line of the A. M. Witham 10 acres, Lot 7, Dover Township, Cuyahoga County, in the Cleveland Field.

FIRES ON McILROY LEASE

AMARILLO, Tex., May 21.—Good fortune as well as misfortune was in evidence recently for the McIlroy interests operating in the Texas Panhandle when three fires threatened serious damage. A bolt of lightning ignited the gas in four risers at the Cockrell-McIlroy Oil Co.'s gusher in southeastern Hutchinson County. Wind whipped the flames toward the oil-soaked property and for a time threatened to ignite the well. However, the gates were closed and the fires snuffed out. Then one of the McIlroy interests' 55,000-bbl. tanks, partly filled, was ignited but it was extinguished after a 10-minute fight. Toward the end of the storm a bolt of lightning ignited the crown block of a well. Drilling crews climbed the derrick and extinguished the fire.

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Imports of crude and refined oils at the principal United States ports for the week ended May 14, totaled 1,415,000 bbls., a daily average of 202,143 bbls., compared with 1,203,000 bbls., a daily average of 171,857 bbls. for the week ended May 7, and a daily average of 163,036 bbls. for the four weeks ended May 14.

	Week end. May 14
At Atlantic Coast Ports—	
Baltimore	197,000
Boston	40,000
New York	681,000
Philadelphia	
Others	297,000
Total	1,215,000
Daily average	173,571
At Gulf Coast Ports—	
Galveston dist.	
New Orleans and Baton Rouge	200,000
Port Arthur and Sabine dist.	
Tampa	
Total	200,000
Daily average	28,572
At All United States Ports—	
Total	1,415,000
Daily average	202,142
Daily average 4 weeks ended	163,036

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended May 14, totaled 224,000 bbls., a daily average of 32,000 bbls., against 525,000 bbls., a daily average of 75,000 bbls., for the week ended May 7, and a daily average of 90,464 bbls. for the four weeks ended May 14.

	Week end. May 14
At Atlantic Coast Ports—	
Baltimore	
Boston	74,000
New York	71,000
Philadelphia	79,000
Others	
Total	224,000
Daily average	32,000
At Gulf Coast Ports	
Total Atlantic and Gulf Coast Ports	224,000
Daily average	32,000
Daily average 4 weeks ended	90,464

Distribution of total California oil receipts is as follows:

Crude	
Gasoline	74,000
Gas oil	71,000
Fuel oil	79,000
Total	224,000

STATE LAND FOR LEASE

Commissioners of the Land Office of Oklahoma, will receive sealed bids until 2:00 o'clock on May 31, for oil and gas leases on the following tracts:

Comanche County: NE, Section 9-2n-15w, 160 acres.

Kay County: Lots 1 2 and S half NE, Section 16-29n-3e, 158.79 acres; Lots 3-4 and S half NW, Section 16-29n-3e, 157.38 acres.

The Commissioners will receive sealed bids until 2:00 p. m., on June 7 on the following tracts:

Lincoln County: NW, Section 36-15n-5e, 160 acres.

Logan County: NE, Section 16-16n-1e, 160 acres; NW, Section 16-16n-1e, 160 acres; SE, Section 16-16n-1e, 160 acres, and SW, Section 16-16n-1e, 160 acres.

OPEN FORT WORTH OFFICE

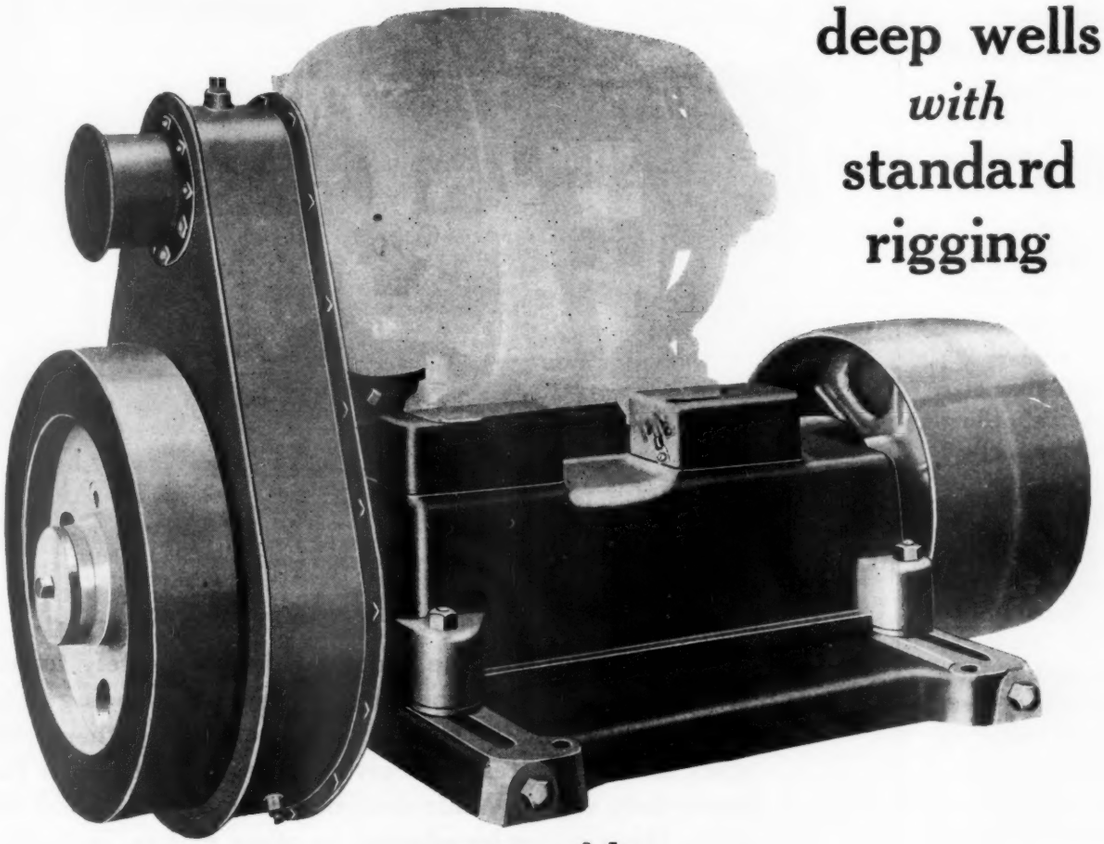
FORT WORTH, Tex., May 21.—Clark & Melat, Shreveport, La., drilling contractors and producers, have opened an office in Fort Worth, Tex., to better handle the firm's expansion program. For several months the firm has been doing contract work in Texas fields and recently started drilling for its own production. The Fort Worth office will be under the direction of I. E. Clark most of the time and he will be assisted by A. M. Keisker, discoverer of the Lisbon, Arkansas, Field.

GASOLINE COST IN ENGLAND

Fuel cost is not so outstanding an item in the operating cost of a motor vehicle in the United Kingdom as to constitute a distinct sales advantage to foreign made cars, which, by virtue of lighter weight, may require less fuel to operate them than American automobiles, the United States Department of Commerce announces.

The O.C.S.
DIAMOND TIMKEN
REDUCTION UNIT
for drilling and pumping

deep wells
with
standard
rigging



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Electric Motors, *any make*, 15 to 75 H. P.

SILENT - COMPACT - EFFICIENT

Write for Bulletin 31

THE OIL COUNTRY SPECIALTIES MFG. CO.

Coffeyville, Kansas, U. S. A.

The Reid Number 50
HEAVY DUTY
Reverse Clutch

Specifications

Solid steel shaft, 5 inches diameter, made of hot rolled stock, turned and ground, 74¼ inches long.

Heavy steel double flanged coupling.

Reid 24 inch Friction Band Clutch, particularly adapted to heavy work.

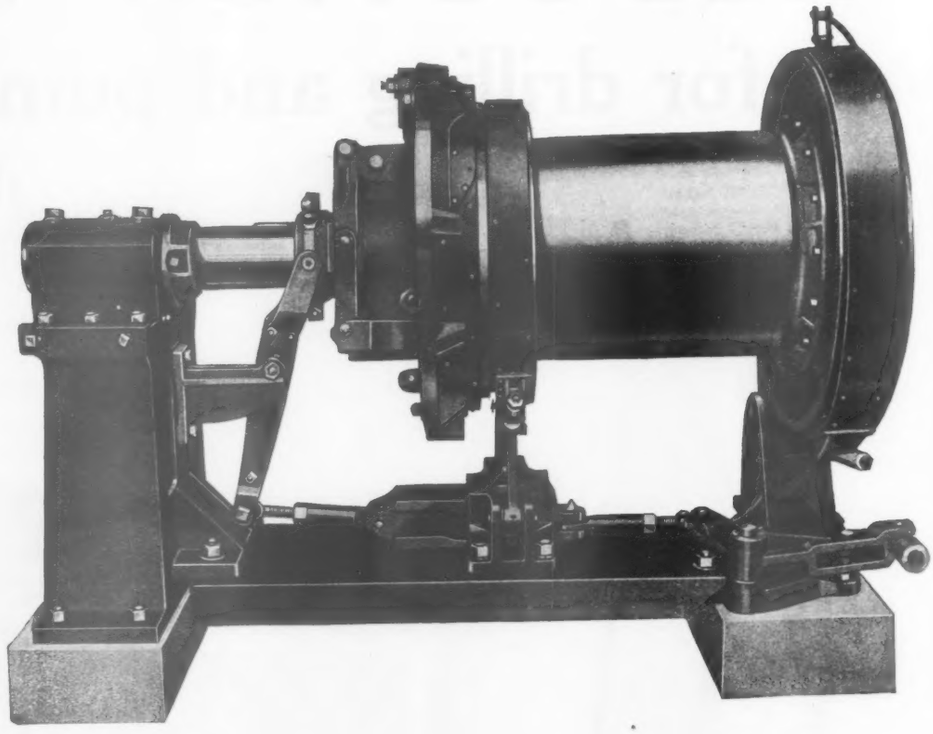
Steel Reversing gears and pinions completely enclosed and operating in a bath of oil.

Thirty inch diameter brake wheel, affording ample braking surface for long periods of operation.

Heavy cast iron pulley, 20 inch face and choice of diameters of 18 to 36 inches, equipped with pulley brake, enabling operator to hold pulley at any position.

One lever controls forward, reverse and braking positions.

Pulley runs on bronze bushings and brake wheel on cast iron bushing with ample provision for lubrication.



A NEW Reid Reverse Clutch which will safely transmit the power of the larger engines now being used in the oil fields. Its sturdy construction together with other distinctive features give it adequate strength for heavy duty work. While designed primarily for Reid engines, this rig can be adapted to other makes, including high speed heavy duty gasoline engines.

Write for detailed information

JOSEPH REID GAS ENGINE COMPANY, OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES AND AGENCIES—Marietta, Ohio; Logan, Ohio; Newark, Ohio; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Frick & Lindsay Co., Bradford, Penna., and Kentucky Distributors; S R. Shoup, 724 Board of Trade Bldg., Los Angeles, Cal.; Frick-Reid Supply Company, Tulsa, Oklahoma, and Branches, Distributors for Oklahoma, Kansas, Texas, Arkansas and Wyoming. Branch Shop, Tulsa, Okla.

EXPORT SALES REPRESENTATIVE: Oil Field Equipment Co., Inc., 30 Church St., New York City

Reid
TRADE MARK REGISTERED

REID OIL FIELD MACHINERY

SOUTHWEST WILDCATS

(Continued from Page 58)

est production in the Cole gas and oil field where production is had at from 1,675 to 1,780 feet and is about 10 miles east of the Schott oil pool at Mirando City where production is had at 1,650 feet with small producing high gravity wells at about 1,950 feet.

Cole Petroleum Co. April 22 brought in its No. 36 Benavides in Block 14 of Survey 412 of Webb County, 5 miles northwest of the Killam-Maddox well, making about 75,000,000 feet of gas from sand at 2,328-36 feet. While the depth is approximately the same, they may be in different sands.

Kingsville Field

Carter-Walsh No. 1 Flato in the Kingsville Field, east of the bayou, and the farthest east of any well in the field, at 1,890 feet tested late last week about 4,000,000 feet of dry gas. The production is hardly sufficient and the well will be deepened. The interesting feature of the situation is that it is shallower than any production in the field and contour lines and subsurface geology seems to indicate that if the well fails in still lower sands there is a good or at least better opportunity to get production by moving farther to the northeast. Probability is that Carter-Walsh will drill their next well to the northeast.

Bruner to Test

Joe Bruner's No. 1 W. F. Davis, 1 mile north of Luling in Caldwell County, was drilling out the plugs Sunday and expected to bail Monday, after taking some additional cores. Steel line measurement to casing seat is 2,384 feet.

Duval County

National Oil Co.'s No. 1 Ball, Ball ranch, Survey 16, located 450 feet to north line and 150 feet to east line, has derrick up. George B. Pickett's No. 1 Ball, NW cor. of ranch, is making location. Ralston M. Talbott, Inc.'s No. 1, Margarite, Survey 4, located 2,500 feet to northwest lines and 1,320 feet to northeast lines, is standing at 1,607 feet. Humble Oil & Refining Co.'s No. 12 Singer, Survey 4, located 2,600 feet to north line and 2,000 feet to west line, is drilling at 3,170 feet. Humble-Reiter-Foster's No. 6 Kohler, Survey 400, located 60 feet to west line and 660 feet to south line, is rigging up. Humble Oil & Refining Co.'s No. 2 Welder-Woods, Survey 102, located 5,280 feet to south line and 4,500 feet to east line, is setting casing at 1,456 feet. Dixie Oil-Southern Crude's No. 1 Gray, Survey 316, located 330 feet to NE cor., is drilling at 1,550 feet.

Jim Hogg County

Holden and others' No. 3 Jones, Share 27, Block 136, located 330 feet to east line and 440 feet to north line, is drilling at 1,520 feet. Harry Hamilton and others' No. 1 Holbien, Block 44, Holbien Subdivision, 158 feet to south line and 363 feet to west line, is drilling at 1,210 feet.

Webb County

B. L. Kay's No. 1 N. H. Brown, located 22 miles southwest of Catarina, is location and must have tools on ground by May 25 and spud in by June 25.

O. W. Killam's No. 1 Billings, SE NW Survey 43, located 150 feet to south lines and 750 feet to west lines, is drilling at 3,400 feet with test to go to 4,000 feet.

Starr County

Commonwealth Oil Co.'s No. 1 Garcia, Survey 538, located at 2,722 feet to south line and 2,102 feet to west line, is drilling at 1,080 feet. Southern Exploration Co.'s No. 2 Russell, Share 173-B, Porcion 69, located 150 feet to north line and 950 feet to west line, is rigging up. Milham Corp.'s No. 2 Salinas, Porcion 111, SE cor., is drilling at 3,512 feet.

Bexar County

A. R. Beal, trustee's No. A-1 Ackerman, Survey 133½, is drilling at 583 feet with drilling to quit at 600-foot depth.

Zapata County

Roxana Petroleum Corp.'s No. 1 E. Lopez, is to be located in Survey 288, location being made at this time. J. H. Winch's No. 1 Bustamente, Share 10, Block 8, located 150 feet to northeast and southeast lines, is rigged and was to spud in May 13.

Bastrop County

The Texas Company's No. 1 Goertz, Survey 349, located 200 feet to west line and 150 feet to south line, is drilling in chalk at 2,525 feet.

Bee County

D. Hewitt is rigging up for No. 1 G. A. Ray. W. S. Poole's No. 1 J. C. Woods, 5 miles southeast of Beeville, is making location. Nichols & White's No. 1 Hicks, Hicks-Ball Survey, Block 19, NW cor., is drilling at 1,500 feet.

Brooks County

The Texas Company's No. 1 Lasater, Survey 329, located 1,250 feet to north line and 1,100 feet to east line, has derrick up.

Brewster County

Green Valley Oil Corp. is preparing to let contract for test 2 miles southwest of its No. 1 Wilson. Van McPhail's No. 1 McIntyre, Survey 59, Block 352, located 150 feet to SE cor., and 8 miles south of Alpine, is drilling at 210 feet.

Caldwell County

Detex Oil Co.'s No. 1 Hardeman, 4 miles north of Luling, is drilling at 2,500 feet with tools sidetracked at 1,200 feet and is back in the old hole. Lou Gould Sheddan's No. 1 W. F. Davis, Salt Flats, at 2,422-55 feet cored 11 feet of sandy lime carrying oil and is setting 6⅝-inch casing at 2,440 feet and will make test. Sutton & Smith's No. 2 Carter, G. Hinde Survey, tried to sidetrack some 8-inch in bottom of hole but failed and are rigging up to fish for the 8-inch.

DeWitt County

Edaourd Raymond's No. 1 Boldt, Jane Lasater Survey, W. R. Boldt tract, center, is ready to spud in. G. O. Williams and O. L. Gates' No. 1 Oscar Gohmert, G. W. Brooks league, 175 feet to north line and 300 feet to east line, is waiting on additional machinery. Empire Southern Oil Co.'s No. 12 Smith, located three-quarters of a mile west of No. 1 and 1,885 feet south of south line and William W. Simpson tract, is ready to spud in. McNeil & Matthews' No. 1 A. D. Kaiser, A. Dillard Survey, 1,508 feet to NW cor., is drilling at 2,500 feet. Yoro Development Co.'s No. 1 Tully, located across Southern Pacific tracks, 1 mile from Tom Burns has been spudded in and shut down.

Dimmitt County

Humble Oil & Refining Co.'s City National Bank, Survey 654, located 700 feet to north line and 2,000 feet to east line, is drilling in very hard rock at 2,500 feet.

Frio County

P. A. Neilan's No. 1 Blackaller, James Gouley Survey, is still fishing at 3,005 feet for drill stem and tools.

Fayette County

La Fayette Oil Co.'s No. 1 Marquardt, J. R. Phillips Survey, 976 feet to northwest lines and 400 feet to southwest lines, has resumed drilling.

Goliad County

Houston Oil Co.'s No. 3 Pettus, 10 miles west of Goliad, is on sand at 3,586 feet; No. 2 Parks, 8 miles east of Goliad, is sidetracking 6-inch drill stem 1,235 from total depth of 3,747 feet.

Guadalupe County

H. H. Temple's No. 1 McAllister, Edward Kellett Survey, 450 feet to northeast line and 1,420 feet to northwest lines, is drilling at 720 feet. Pat Armstrong's No. 1 Dale, topped chalk at 1,652 feet and shut down. F. A. Lain's No. 1 C. F. Weinert, W. K. Estell Survey, 150 feet CNL, is shut down at 1,645 feet to clear titles.

Hays County

J. E. Rogers No. 1 Hohenburg, 2½ miles east of San Marcos, is underreaming to lower 6⅝-inch casing, total depth around 1,120 feet.

Jackson County

Houston Gulf Gas Co.'s No. 1 White, Gale Survey, center of east 20 acres, has set surface casing.

Karnes County

Alamo Drilling & Leasing Co.'s No. 1 Szalwinski, Manchaca Survey, 500 feet to northeast lines and 200 feet to southeast lines, at 1,885 feet after sidetrack-

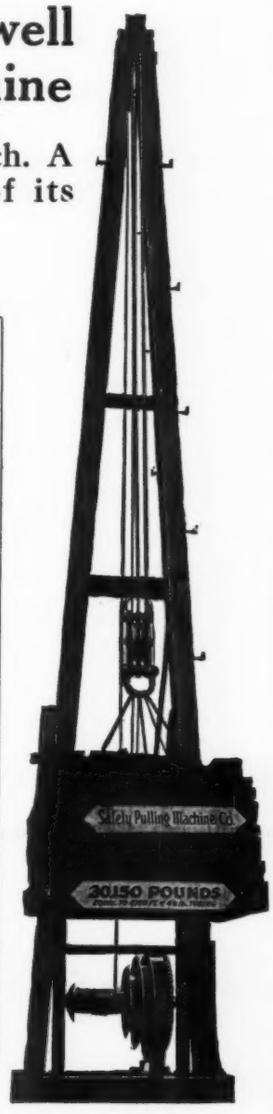
ECLIPSE DEEPWELL PULLING MACHINE

32,844 *Lbs.*--

a tremendous load, yet the deflection of the

Eclipse Deepwell Pulling Machine

was less than one inch. A graphic example of its great strength.



Specifications
DEEPWELL

Eclipse Deepwell up to 8000 ft. 2" Tubing, Weight 3645

Mast 8x10x36 ft., Douglass Fir A-Style Two Wheel Truck, two 16" Bronze bearing crown pulleys, 2¾ Steel Pin mounted in malleable boxings. Large supporting plate 16" dia. between crown pulleys, eliminating any chance of bending pin.

Reel or Drum; 32 lb. 8¼ casing filled with concrete for winding drum, differentials banded with 3/16 band iron, brake surface 6"x40", choke brake style same as Star drilling machine.

The whole reel assembly is mounted on 2¾ square steel shaft extending clear through reel, secured by three heavy castings.

For Sale By All Supply Companies

Manufactured By—

SAFETY PULLING MACHINE CO.
INDEPENDENCE, KANSAS

ing and making new hole are having trouble getting casing set.

Kerr County

Walker-Van Duyn's No. 1 W. B. Leigh, Survey 38, located 500 feet north of river and 150 feet south of railroad, has resumed drilling again at 2,250 feet.

Kinney County

W. A. Stephens and others' No. 1 Jim Clamp, Survey 346, Section 1,492, at 5,362 feet to west line and 5,674 feet to south line of survey, is drilling at 580 feet in Taylor Marl, topped at 60 feet. Havelin Oil Co.'s No. 1 well, 18 miles from Del Rio, is fishing at 4,340 feet.

Lampasas County

W. B. Abney and others' No. 1 Townsite, located within city limits of Lampasas, is drilling at 250 feet. Roeser & Pendleton Inc.'s No. 1 Busch, W. A. Martin Survey, center, is drilling in dark gray lime at 2,095 feet. Davis & Bullock's No. 1 Bunch, 8 miles north of Lampasas, is at 1,100 feet and has set casing to shut out water. Smith and others' No. 1 Faught, Alex Brown Survey, 700 feet to east line and 500 feet to south line, is drilling at 700 feet in black lime. Fritz Fuchs Oil Co.'s No.— Aynesworth, 12 miles west of Lampasas, is to resume drilling at 500 feet and go to 1,200 feet.

Lavaca County

Steinman Brothers' No. 2 Steinman (fee) 100 yards from No. 1, is drilling at 3,300 feet.

Lee County

Bowers and others' No. 1 Brenbaum, 200 feet to NW cor. of lease and 2 miles east of Monheim, is drilling at 600 feet. M. O. Ricketts and others' No. 1 Sanders, Joseph Maximillian league, 250 feet to SE cor., is shut down at 800 feet.

Live Oak County

Stovall & Kelly's No. 1 Stewart, William J. Cannon Survey, located 200 feet west of Nueces River, is preparing to spud in. Warren Wood Hunt's No. 1 B. McNeil, Jane Curry Survey, located 4,000 feet to NE cor., has been spudded in. Houston Oil Co.'s No. 3 Sellers, J. Muellin Survey, is located 700 feet CNL; No. 17 Cartwright, Cannon Survey, 1,500 feet southwest of No. 1 Riverbed, has been plugged and abandoned; No. 1 Dunning, Kivlin Survey, has set 6¼-inch casing at 2,055 feet. Simmons Oil Co.'s No. 4 Sartain, Simms tract, west edge of field, is drilling at 1,443 feet with core showing sandy shale. J. W. Walton's No. 1 Roberts, west of Three Rivers, is standing at 1,837 feet waiting for water to make test.

Medina County

Marland Oil Co.'s No. 3 San Antonio Trust, Annie Morris Survey, located 660 feet to NW lines of 166-acre Wisdom tract, is drilling on rock at 109 feet. Schermerhorn Oil Co.'s No. 5 Medina Valley Farms, Survey 31, Block 3, located 2,500 feet north of No. 1, is drilling at 1,170 feet. C. W. Simpson's No. 1 Blocker, William Dubose Survey No. 20, located 150 feet to north line and 305 feet to west line, is drilling on rock at 100 feet. Witherspoon Oil Co.'s No. 2 Redus, Survey 92, is plugging back at 1,122 feet after testing salt water. R. P. O'Brien's No. 1 J. C. Nixon, SE SW Survey 531, located center, is to be put on the pump at 1,007 feet with casing set at 855 feet and oil sand at 940 feet. Fennell & Williams' No. 2 John Fohn, Survey 115, east 100 acres, located 300 feet to south line and 175 feet to east line, is in Eagleford at 1,470 feet. Medina Oil Co.'s No. 1 Taylor, Survey 135, is drilling at 451 feet; No. 12 Taylor is location in Survey 135. J. A. Swayze's No. 1 Oeffingers, Survey 129, Block 22, is shut down at 300 feet. California-Medina's No. 1 Rothe is pulling casing at 3,119 feet in preparation to drilling deeper.

Maverick County

Ryan Consolidated Petroleum Co.'s No. 1 Indio, Survey 14, center, is preparing to run 12½-inch at 1,104 feet. Johnstone & Hout's No. 1 Whipff, located 9 miles from Eagle Pass, is shut down at 1,220 feet. Rycade Oil Co.'s No. 1 Chittim, has gas mudded off at 5,592 feet and moving rotary back to complete fishing job; No. 2 Sullivan is straigtreaming to set 9-inch in lime at 3,832 feet. Hume-Lindenborne's No. 1 Mat Hanchin, Survey 44, Block 16, center, is drilling at 200 feet.

McMullen County

E. R. Marts No. 8 Poitevent, Survey 56, is location 1,250 feet to south line and 150 feet to southwest lines. R. L. Taylor's No. 1 Shiner, Survey 8, located 150 feet to NE cor., is shut down at 1,300 feet to repair broken rotary spider. Nelson & Woods' No. 1 Shiner, Survey 48, Block 74, located 1,000 varas to east line and 350 varas to south line, is to resume drilling at 783 feet. George Picketts' No. 1 Jacob, Survey 7, located 660 feet CNL, is coring in lower Cook Mountain at 2,575 feet using a 6-inch core barrel. Dodson and others' No. 1 Franklin, SW Survey 31, is shut down at 1,100 feet. Houston Gulf Gas Co.'s No. 5 Jacob, J. Rees Survey, located 600 feet to north line and 2,500 feet to west line, is standing at 904 feet. George M. Ball's No. 1 Kuykendall, Block 7, located 300 feet to south line and 600 feet to east line, is shut down at 1,390 feet.

Nueces County

W. L. Pearson No. 2 Weil, has set 6⅝-inch casing at 2,350 feet on sand; No. 2 Meeney located 300 feet from south line of lease, has derrick up; No. 1 Meeney is being swabbed.

San Patricio County

W. L. Pearson's No. 6 Cage, Rachall Survey, located 1,500 feet south of No. 5, is on gas sand at 2,360 feet and standing. Huber & Crawford's No. 1 Mathis, Delgavo Survey, Block 17, located 300 feet to northwest lines and 2,500 feet to southwest lines, is shut down at 2,516 feet. John Sigmund's No. 7 McCambell with drill stem at 4,012 feet is bailing to test gas.

San Saba County

B. C. Graves and others' No. 1 Shaw, Survey 68, located 2,000 feet to north line and 1,500 feet to east line, has been spudded in to go to 1,200 feet. C. J. Williamson and others' No. 1 McCarty, near Milburn, has been spudded in. George W. Penngington and others' No. 1 Blackard, Section 333, located 900 feet to NW cor., is drilling.

Victoria County

R. M. Talbott's No. 1 J. K. Reeves estate, located 2,000 feet to east line of estate, is shut down at 750 feet.

Wilson County

Thomas and others' No. 1 August Haese, Survey 124, located 300 feet to NE cor., is rebuilding derrick.

Williamson County

Petoskey Oil Co., No. 1 Stewart, J. Dovilla Survey, is location 400 to north line and 300 feet to west line. Watercress Oil Co.'s No. 1 Fowler, D. D. Fowler farm, 6 miles west of Georgetown, is moving in rig.

SOUTHWEST TEXAS

(Continued from Page 58)

wright gas field in Live Oak County Houston Oil Co. abandoned its No. 17 Cartwright on the south side of the field, a failure at 2,900 feet.

New Locations

In Bexar County, Allen Burnam has the derrick up on a new location east of San Antonio on the Ward tract, a mile southeast of Martinez and located 800 feet from the north line and 2,400 feet from the west line of the Ward tract. Red Ant Oil & Gas Co. (W. S. Poole) of Beeville has blocked three separate tracts in Bee County, two in the northwestern part of the county and one south of Beeville and has made a location on the J. S. Wood farm for a test on the block south of Beeville and one on the Billingsley farm in one of the tracts in the northwestern part of the county 7 miles west of Pettus and will drill the Billingsley test first.

Western Gas & Fuel and Witherspoon Oil Co. have made location for No. 3 Adams in the Adams gas field in Medina County, 631 feet west of Lange's No. 1 Adams.

In the Refugio Field, Houston Gulf Gas has made location for the No. 2 Wilson Heard-Receiver, and is drilling at 1,551 feet. Houston Oil Co. in the same field has put a derrick and rig back over the No. 5 Rooke of Pratt-Hewitt which is standing at 2,400 feet and will deepen it. Houston Gulf Gas Co. in the same field has gone back into No. 1 Moody-Wilson Heard and milled through the casing at 1,500 feet and is now drilling at 1,920 feet.

H. H. Galbraith has made location in Zapata County for No. 1 M. A. Hirsch in E. Javali Survey No. 595 in the northeast corner of the tract.

In Williamson County, Fritz Fuch has made location and is rigging up No. 1 John Kubicek 4 miles northwest of the Thrall Field.

Walsh Gets Gas

J. E. Walsh on the east side of the Cayo del Gruello in the Kingsville Field late in the week tested at 1,887 feet and got a small gas well. It is the farthest east production in the field. It will probably be drilled deeper.

Cole Gas Field—Duval

Cole Petroleum Co.'s No. 38 Benavides, Survey 10, Block 12, located 155 feet to northeast and northwest lines, has derrick up; No. 48 Benavides, Survey 23, Block 2, located 660 feet to northwest and northeast lines, is on sand at 1,683-85 feet; No. 45 Benavides, Survey 22, Block 2, located 450 feet to southwest and southeast lines, has derrick up; Houston Oil Co.'s No. 1-D S. Benavides, Survey 387, located 155 feet to southwest and southeast lines, is on sand at 1,759 feet and underreaming to set casing. Houston Oil-Sun Oil Co.'s No. 3-A Benavides, corners of Blocks 473, 474, 479 and 480, is on sand at 1,606 feet. Houston Oil-Roxana's No. 1 Bruni, Block 18 of Survey 11, is location, 150 feet to northeast and northwest lines.

O'Hern & Seacord Pool

Magnolia Petroleum Co.'s No. 2 Benavides, Survey 174, Block 7, located 330 feet to northeast and northwest lines, at 1,748-54 feet, tested dry and is drilling at 1,760 feet. O. W. Killam's No. 1 Bruni, Survey 585, located 600 feet to east lines and 150 feet to north lines, at 2,735-40 feet, showed gas and trace of oil and is being tested with Johnson tester. Moody Oil Corp.'s No. 1 J. Benavides, Mesquite ranch, Block 40, Subdivision 1, located 150 feet to northwest and southwest lines, is drilling at 2,930 feet.

Randado Field—Jim Hogg

Livingston & Ritchson's No. 1 Palacious, Survey 287, Block 18, located 150 feet to NW cor. and 2,000 feet east of production, has a sand at 1,360-65 feet and is standing.

Henne, Winch & Fariss Pool

Magnolia Petroleum Co.'s No. 27 Martinez, Survey 276, located 1,750 feet to east line and 2,525 feet to north line, is drilling at 2,146 feet.

Kitselman & St. Albans Pool

Edward St. Alban's No 8 Lopez, Share 1, Block 7, is location 1,058 feet to south line and 974 feet to west line. K. & S. Corp.'s No. 57 Holbien, Survey 17, Block 40, located 330 feet to NE cor., is drilling at 2,498 feet after testing salt water at 2,398-2,402 feet.

Alworth Field

Magnolia Petroleum Co.'s No. 22 Merchants State Bank, Survey 236, located 450 feet to SW cor., is drilling at 2,235 feet.

Schott Field—Webb

Laredo Oil Co.'s No. 12 J. M. Garcia, NW SW Survey 458, located 760 feet to west line and 160 feet to north line, is drilling at 2,457 feet. Jones-Garcia Oil Co.'s No. 3 Garcia, Survey 463, located 150 feet to NE cor, is rigged up and standing. Magnolia Petroleum Co.'s No. 7 Garcia, Survey 58, located 1,537 feet to west line and 130 feet to north line, has a sand at 1,567-71 feet and is testing.

Albercas Gas Field

O. W. Killam's No. 2 Bruni, Block 65, located 1,470 feet to south line and 470 feet to east line, is standing at 2,200 feet; No. 3 Bruni, Block 64, located 150 feet to north line and 450 feet to west line, is drilling at 2,505 feet.

Carolina-Texas Pool

D. J. Simmons' No. 2 de la Garza, Survey 335, Block 8, located 150 feet to SW cor., is standing at 400 feet. Ward and others' No. 1 Webster, NW NE NW Survey 684, located 150 feet to NW cor., is drilling at 2,150 feet. Houston Oil Co.'s No. 1 Barnsley, Survey 268, Block 9, located 150 feet to SW cor., has resumed drilling at 2,010 feet. Morgan-O'Hern & Seacord's No. 1 Webster, SE SE NW, Survey 684, located 150 feet to SE cor., at 3,076 feet tested salt water and some oil and is plugging back. Barnsley-Chicago Syndicate's No. 2 de la Garza, Survey 335, Block 22, located 810 feet to south line and 150 feet to east line, at 2,012 feet, tested gas with rock pressure of 500 pounds.

Cole Gas Field

Cole Petroleum Co.'s No. 43 Benavides, Survey 412, Block 13, located 1,060 feet to east line and 450 feet to south lines, is drilling at 2,275 feet; No. 44 Benavides, Survey 411, Block 5, located 630 feet to north line and 682 feet to east line, is rigging up, with elevation of test 794 feet.

Mirando Valley Pool—Zapata

Killam-Duggan's No. 6 R. B. Cuellar, located 150 feet to northwest line and southwest lines of 1,172-acre tract in Cerrito Blanco grant, has derrick up. The Texas Company's No. 5 Jennings, located 10,700 feet to southeast lines and 7,000 feet to southwest lines in Cerrito Blanco grant, is pulling liner to drill deeper, after testing small amount of gas and fresh water at 1,957-63 feet.

Rockdale Field—Milam

Noack Oil Co.'s No. 6 Seelke, Chambers Survey, located 300 feet southeast of No. 4 is moving in machinery. Kent-Middleton's No. 1 Gunn, inside southern city limits and direct offset to No. 1 Henne & Meyers, is ready to spud in. Kent-Middleton's No. 1 Rowland, offsetting No. 1 Henne & Meyers and one location nearer business district of Rockdale, is setting casing. Coffield & Hale's No. 1 Shelton, located south of Rockdale, is to start drilling at once. Fritz Fuch's No. 3 Hudson, offsetting No. 4 J. B. R. Smith, is drilling at 800 feet. Rockdale Development Co.'s No. 2-B Lorenz, Thompson Survey, offset to No. 1 Lorenz, has set casing to drill in. Noack & Allen's No. 1 Dymke, William Allen Survey, NE cor. of lease, has been spudded in. Lowenstein Oil Co.'s No. 2 test, offsetting No. 1 Henne & Meyers on the north, has set casing to bring in. Coffield & Hale's No. 1 Alford, north of city limits, has been cemented ready to bring in. Noack Oil Co.'s No. 5 Seelke, T. J. Chambers Survey, located 300 feet east of No. 3, is drilling below 500 feet.

Refugio Field—Refugio

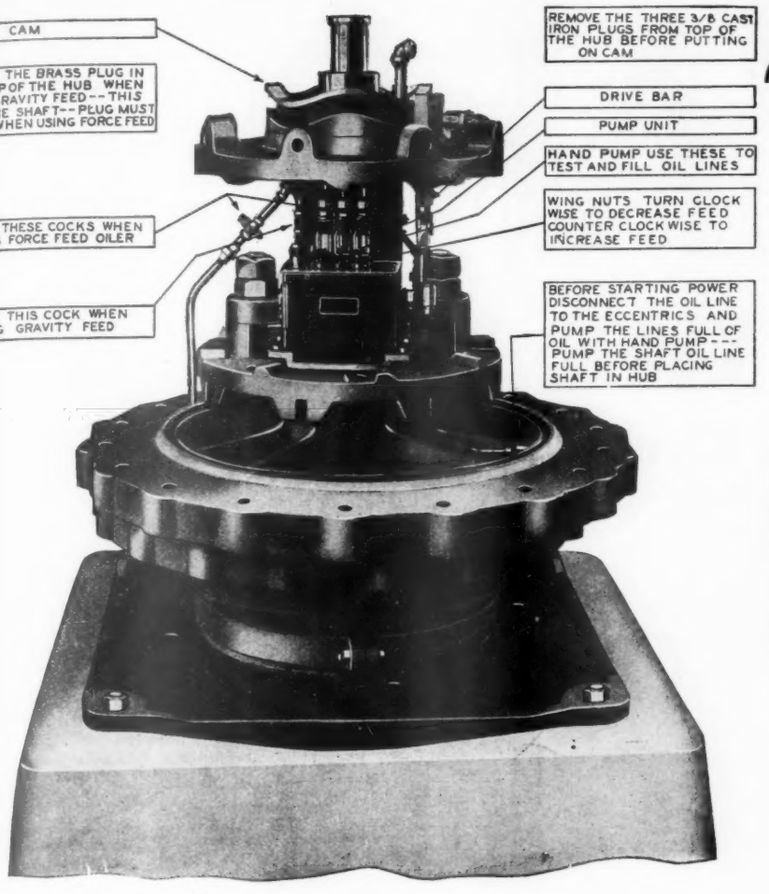
Houston Oil Co.'s No. 2-A Rooke, T. Mullen Survey, located 677 feet to north line and 700 feet to east line, is new location; Houston Oil Co.'s No. 10 Fannie Heard, Refugio tracts, 592 feet northeast of No. 9, at 2,020 feet tested average gasser through Halliburton and is setting casing to bring in. Houston Gulf Gas Co.'s No. 2 Leslie Adkins, center of Lot 3, Block 10, is drilling at 1,000 feet; No. 3 Moody, Refugio town tracts, has been completed for 20,000,000 feet of gas. William F. Morgan's No. 2 Rose Rogers, northeast of No. 1 in Powers Survey and a half mile from production, is drilling at 1,690 feet. Coast Gas Co.'s No. 1 Lambert at 2,470 feet was completed, gauged at 25,000,000 feet.

Kingsville Field—Kleberg

Houston Oil Co. and A. C. Erwin's No. 1 Kivlin, Lot 7, Section 50, located 660 feet to SE cor., is drilling at 710 feet. Carter-Walsh's No. 1 Flato, Lot 29, King land, is preparing to test sand showing gas at 1,887 feet. Humble Oil & Refining Co.'s No. 3 Kleberg, trustee, Lot 1, Section 40, located 150 feet to NW cor., is drilling at 3,540 feet after coring 14 feet of dry sand; No. 1 Kleberg, trustee, Lot 8, Section 40, located 150 feet to NE cor., on sand at 3,252-60 feet set 3,240 feet of 6⅝-inch casing after coring rich oil sand at 3,260 feet and will make test; No. 3 King, east of Cayo Del Grullo, has reset casing in cement at 2,325 feet to test 7 feet of oil sand; No. 3-A Dennett, NW cor. Lot 2, Section 39, is drilling at 2,460 feet after testing dry in 24 feet of sand at 2,442 feet; No. 1 Kivlin, NW cor. Lot 5, Section 39, at 2,596 feet is flowing 200 bbls daily by heads.

Adams Gas Field—Medina

Witherspoon Oil Co.'s No. 1 Bader,


CAM
REMOVE THE BRASS PLUG IN THE TOP OF THE HUB WHEN USING GRAVITY FEED -- THIS OILS THE SHAFT -- PLUG MUST BE IN WHEN USING FORCE FEED
CLOSE THESE COCKS WHEN USING FORCE FEED OILER
CLOSE THIS COCK WHEN USING GRAVITY FEED
REMOVE THE THREE 3/8 CAST IRON PLUGS FROM TOP OF THE HUB BEFORE PUTTING ON CAM
DRIVE BAR
PUMP UNIT
HAND PUMP USE THESE TO TEST AND FILL OIL LINES
WING NUTS TURN CLOCK WISE TO DECREASE FEED COUNTER CLOCK WISE TO INCREASE FEED
BEFORE STARTING POWER DISCONNECT THE OIL LINE TO THE ECCENTRICS AND PUMP THE LINES FULL OF OIL WITH HAND PUMP --- PUMP THE SHAFT OIL LINE FULL BEFORE PLACING SHAFT IN HUB

MARION HEAVY DUTY BAND WHEEL POWERS

The band wheel is constructed with two sets of angle drive spokes and two sets of round spokes to true up the wheel. It cannot break or distort with any load the belt can pull.

All shaft bearings are bronze bushed and are easily removed and new bushings put in place.

The thrust bearings are heavy bronze plates, and run in a bath of oil.

The powers are fitted with a Force Feed oiling system that puts the oil to each eccentric and to the shaft under pressure so that the oiling is positive. Only clean new oil is used. No dirty oil reaches the bearings.

There is also an emergency gravity oiling system that can be used in case the force feed system should be off for repairs.

These powers are built in two sizes—No. 999—Heavy Duty Power, 18″ stroke, Double eccentric—16 ft., 18 ft., or 20 ft. band wheel with 15″ face.

No. 2424 Extra Heavy Duty Power with 24″ stroke, double eccentric, 24 ft. band wheel with 18″ face.

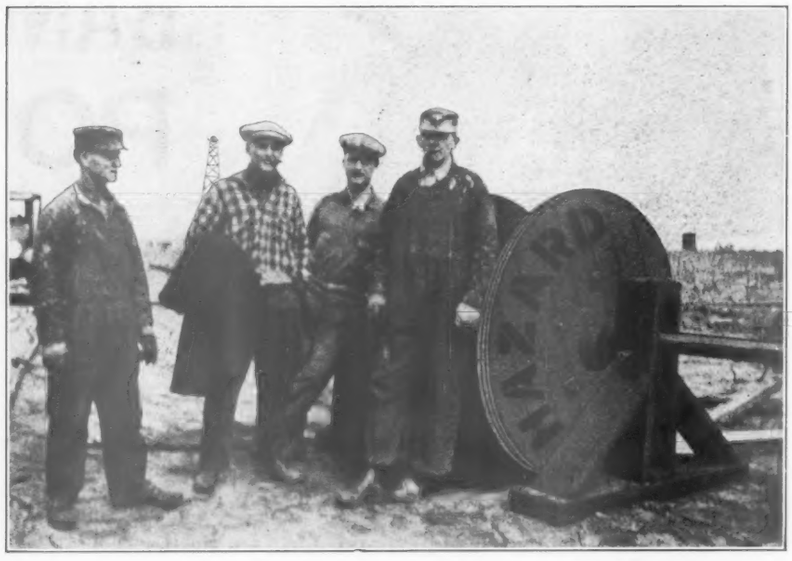
Write for Bulletin No. 237

MARION MACHINE FOUNDRY & SUPPLY CO.
Marion, Ind.

Half Wheel supported by driver spokes only.

HAZARD WIRE LINE

Makes Exceptional Record



Left to Right:
Everett Sears, Tool Dresser;
Russell Lawson, Driller;
Ronald Lawson, Tool Dresser;
Dick Eaton, Driller.

The Curtis Oil Co. of Oklahoma made the following exceptional record with a 4500 ft. 7/8" diameter, 6x19 Hazard Drilling Line:

Put on No. 1 Sier—J. A. Hull Lease in 29-18-9, drilled	2840 feet
Put on No. 1 Douglas, J. A. Hull Lease in 29-18-9, drilled	2600 feet
Put on No. 1 Walker, J. A. Hull Lease in 29-18-9, drilled	3100 feet
Put on No. 1 Oakhurst, Curtis Oil Co. in 5-18-22, drilled	2373 feet
Put on No. 1 St. Clark, Curtis Oil Co. in 23-16-10, drilled	2656 feet
Put on No. 1 Scott, Curtis Oil Co. in 26-16-10, drilled	1860 feet

Drilled a total of 15,429 feet, and still have 2400 feet of good line left. It was taken off because it was too short for the work.

While this was an exceptional case ALL HAZARD WIRE LINES ARE GOOD.

HAZARD MANUFACTURING COMPANY

Wilkes-Barre, Pa. **1625 So. Troost Ave., Tulsa**

New York Pittsburgh Chicago
Denver Philadelphia Birmingham

Distributors in the Eastern Fields
CROTTY & CO.
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PRICHARD SUPPLY CO.
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DANSER SUPPLY CO.
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1st Nat'l Bank, Fort Worth, Tex.

Distributors in Oklahoma, Kansas and the Panhandle of Texas
BOVAIRD SUPPLY CO.
904 Mid-Continent Bldg.
Tulsa, Okla.

Survey 135, located 150 feet to north line and 400 feet to west line, is moving in machinery. Western Gas & Fuel Co. and C. E. Lange's No. 11 Adams, Durst Survey, located 1,550 feet northwest of No. 10, has derrick up. Western Gas & Fuel Co.-Medina Syndicate's No. 1 Nixon, Survey 13, located 922 feet to east line and 281 feet to north line, at 925 feet tested 7,000,000 feet and has set casing to bring in. Witherspoon Oil Co.'s No. 2 Nixon, Survey 119, located 2,120 feet south of No. 1, is drilling at 600 feet.

Somerset Field—Atascosa and Bexar

Grayburg Oil Co.'s No. 92 Caruthers, G. Cooper Survey No. 377, located 1,000 feet east of No. 26, is rigging up. Associated Petroleum Co.'s No. 15 Caruthers, William Caruthers Survey, is location 604 feet north of No. 13; No. 2 Ernest, Survey 266, is location 550 feet west of No. 1; No. 3 Kohler, Survey 49, is location 300 feet west of No. 2, and is moving in machinery. N. A. Saigh's No. 3 Frees, Sam McCullough headright, located 400 feet east of No. 2, is drilling at 516 feet.

Mission Field—Bexar

Bay Shore Production Co.'s No. 1 Walsh is location in NW cor. of lease. Shannon & Shannon Oil Co.'s No. 4 Walsh is location 330 feet northeast of No. 3.

Adkins Field—Bexar

W. L. McClanahan's No. 5 Sodrok has been spudded in 300 feet east of No. 4 and 150 feet south of north line of tract.

FARMINGTON, N. MEX.

(Continued from Page 50)

the Bloomfield district, the details of which have not all been made public.

The T. C. N. Oil Co., operating on the Ed. Lanier permit in the Bloomfield district, Section 9-29-11, is drilling in a sandy shale at a depth of 216 feet with Driller Kelley in charge and is making satisfactory progress.

Kutz Canon District

The Larson Oil Co., operating in the Kutz Canon district, Section 11-28-11, is drilling at a depth of about 200 feet and making good progress in a sandy shale.

The Union Oil & Mining Co., operating in the Blanco district, Section 8-29-9, is underreaming to lower casing to the remaining two strings of tools still in the well. While recovering the other strings of tools the well shot oil several times over the top of the steel derrick and good production is confidently expected. Storage tanks are being brought in and will be placed by the time the other tools are recovered.

The Klem-Taylor Syndicate, drilling on the Bayfield structure, Section 12-34-7, has reached a depth of 1,100 feet and has had no water to contend with for several hundred feet. Fifteen hundred feet of new steel cable has been installed.

The Midwest Refining Co., operating in the Seven Lakes district, Section 2-17-9, has spudded in No. 2 on the Hospah structure and had reached a depth of 400 feet at the last report. The Producers & Refiners Corp., has made a location in the Seven Lakes district but has not yet spudded in. The location is in Section 25-13-9.

The Ohio Oil Co., established a landing field here this week for its aerial geological department. This is a new method of oil scouting for the San Juan Basin. The company is scouting the area south of here for structures.

GULF COAST FIELDS

(Continued from Page 54)

Railroad) is drilling No. 50 Texas and New Orleans Railway's right of way at 4,018 feet.

Pierce Junction

The discovery of sands from 4,200-4,700 feet on the north, northwest flanks of the Pierce Junction Pool, a few miles beyond the south limits of Houston, has been followed by considerable activity there. The daily average output of the pool is now above 10,500 bbls. The original production there was on the east side of the salt dome. The new deep sand area is about 1 mile distant from the original wells. The fact that the Navarro Oil Co.'s No. 1 Humble went in to rock salt at 4,260 feet on the north side will block off further development work in that direction. The deepest producer in the new section is the Marland Oil Co.'s No. 4 Prudent, which got a sand at 4,650 feet. Last week the Gulf Production Co.'s No. 1 Sanders, an offset, came in flowing 3,000 bbls. from a sand at 4,150 feet. This illustrates the erratic character of the coastal formations.

On the northwest flank, Lee & Woodward's No. 2 Settegast is drilling at 1,658 feet. The Moody Oil Corp.'s No. 1 Whitehead is at 3,608 feet and Anderson & Plummer's No. 1 Whitehead is drilling at 3,390 feet. The Rio Bravo Oil Co.'s No. 6 Settegest is drilling at 4,235 feet. No. 3 Bender is sidetracking at 3,415 feet. The Marland Oil Co.'s No. 1 Prudent is drilling deeper and No. 2 Prudent is deepening around 4,375 feet. J. F. Bashara's No. 2 Bender is at 4,275 feet with a location for No. 1 Fee. M. Kouri's No. 2 Jones is drilling around 2,345 feet.

In the Goose Creek Pool, the Humble Oil & Refg. Co.'s No. 56 Smith on the east side is perforating at 4,065 feet. No. 71 Smith is drilling at 2,095 feet. No. 10 Beaumont is drilling below 3,715 feet. The Gulf Production Co.'s No. 24 Smith is deepening. A location has been made for No. 14 Chapman-Bryan. Wilson and others' No. 7 Busch is sidetracking at 1,943 feet. The Gulf Oil Co.'s No. 35 Galliard 31 acres is at 3,135 feet. The M. & B. Oil Co.'s No. 6 Scorrgea is shut down at 2,460 feet.

Liberty County Pools

In the South Liberty Pool, The Texas Company's No. 2 Staiti is drilling deeper. The Navarro Oil Co.'s No. 10 Harrison is preparing to deepen. These are in the old section. On the west side of the Trinity River, the Gulf Production Co.'s No. 2 Marshall is drilling at 3,790 feet.

D. J. Harrison's No. 1 Quintette in the old North Dayton Pool is drilling at below 3,500 feet.

Hull Pool

In the Hull Pool, the Empire Gas & Fuel Co.'s No. 25 Barngrover is at 3,235 feet, and the Gulf Production Co.'s No. 20 Baldwin is at 3,010 feet. Same company's No. 86 Phoenix is drilling at 3,415 feet. The Texas Company's No. 3 Taylor and 5 Hannah are both deepening with a location made for No. 7 Hannah. The Republic Production Co.'s Nos. 33 and 98 Dolbear are being worked over. The Mecom Oil Co.'s No. 2 Taylor is sidetracking around 3,415 feet, and the Big Dome Oil Co.'s No. 1 Palmer is at 4,087 feet.

In the Orange Pool, the Rycade Petroleum Corp.'s No. 5-B State land is drilling at 4,235 feet. The Texhoma Oil Co.'s No. 13 Chesson is below 3,415 feet. The Supreme Oil Co.'s No. 2 Jackson is shut down at 3,300 feet. The Tillery Oil Co. has a location for No. 3 State land. The Gulf Production Co.'s No. 11 Peveto is at 4,235 feet.

Other Pools

In the Big Creek Pool, the Gulf Production Co.'s No. 1 J. H. P. Davis is drilling at 4,565 feet, and No. 1-A J. H. P. Davis is below 3,545 feet. No. 40 Davis is at 3,615 feet, and No. 41 Davis is around 3,765 feet. No. 2 Hausler is at 4,615 feet. The Texas Company's No. 1 Wheat is drilling around 3,095 feet, and No. 4 fee is at 3,540 feet.

The Sun Oil Co.'s No. 11 Cade at High Island is at 2,545 feet. The Texas Company's No. 23 Arnold at West Columbia is drilling at 1,843 feet. The Rycade Petroleum Corp. has started No. 1 Mier in the Nash Pool.

In the Boling Pool, The Texas Company abandoned No. 3 Felder at 4,630 feet. The Gulf Production Co. is rigging No. 1 Allen, and the Sun Oil Co.'s No. 3 Farmer on the northeast flank. The Hyde Production Co.'s No. 1 Robbins is rigging. Bass and others are starting No. 1 Kelly, and the Boling Oil Co. No. 4 Carson on the dome in the shallow cap rock section.

No new work of any kind is being done in either the Sour Lake, Saratoga or Batson pools.

South Louisiana Pools

In the Lockport Pool in Calcasieu

AUCTION

We will on

THURSDAY, JUNE 2, 1927

at 10:30 a. m. at

Coffeyville, Kansas

offer for sale at Public Auction (either as a whole or in piece meal lots to suit the requirements of all purchasers) the plant, equipment and real estate of the

KANSAS OIL REFINING CO.

Equipped at an approximate cost of $1,000,000.00

This plant was rated at a 5000 barrel capacity and is equipped to make finished gasoline, kerosene, gas oil, wax, lubricants and fuel oils, and consists of:

Completely equipped wax house, sweat pan house, filter house, pipe shop, boiler house, oil and pump house, receiving house, agitator pump house, water pump house, blacksmith shop, storehouse, cooling towers, stills, steel tankage with a capacity of 175,000 barrels, condensers, towers, cooling boxes, agitators, completely equipped experimental laboratory, office furniture and fixtures.

15 miles of pipe in all sizes up to 6¼", 3500 valves in various sizes and miscellaneous other items too numerous to mention.

NOTE: The plant will be offered for sale as a whole, machinery and equipment in parcels, the real estate and buildings as a whole or in parcels to suit the requirements of all bidders.

A deposit of 25% will be required from each purchaser. All checks must be certified. Plant on exhibition any time prior to the sale. Detailed circulars will be mailed on request.

MICHAEL TAUBER & COMPANY

Auctioneers

317-319 South Market St. Chicago, Ill.

Parish, near Lake Charles, the Vacuum-Gulf Co.'s joint No. 11 Miller is deepening at 3,985 feet. No. 16 Miller is drilling at 4,435 feet, and No. 17 Miller is around 1,358 feet. No. 2 Bordages will be drilled deeper. No. 3 Bayou D' Inde is around 3,980 feet. No. 2 Friedberg & Wolf is at 4,765 feet, with a derrick standing for No. 4. On the Farquhar lease, No. 1 is plugging strainer at 4,400 feet. No. 2 is drilling below 3,085 feet. No. 5-A is at 4,505 feet, and No. 6 is at 375 feet.

In the Edgerly Pool, the Hercu'es Petroleum Co.'s No. 1 Paraffine is drilling around 3,486 feet. The Rex Petroleum Co.'s No. 5 Hunter is at 4,165 feet. The C. M. Crotty Oil Co.'s No. 12 Lilliard is drilling around 1,875 feet. The Gulf Refining Co.'s No. 41 Bright-Penn is at 4,090 feet. Its No. 8-B Higgins will be deepened.

In the Stark Pool, Calcasieu Parish, the Gulf Refining Co.'s No. 5 Lutcher-Moore Lumber Co. lands is at 4,465 feet, and No. 1 Industrial Lumber Co. is below 3,400 feet.

Coastal Texas

The search for new saline domes by geophysical methods continues to be prosecuted with considerable vigor in the coastal sections of Texas and Louisiana, as well as in East Texas. The floods in northern and central Louisiana have caused a cessation of geophysical exploration work in that state. The seismograph is being used in the vicinity of Crosby in the eastern part of Harris County, Texas, at present. Chambers and southern Liberty County are also being tested out by means of both the seismograph and torsion balance, as is a section south of the town of Orange.

The use of these instruments and of an electrical device has become a fixture in the coastal plains region, and none of the major corporations will consider any lease proposition unless permission is given to make a geophysical survey. Such a survey must embrace several thousand acres, and the time required to make a survey is from one to several months, depending upon the amount of acreage involved. A number of independent exploration companies are now engaged in the work of making surveys for individuals and corporations.

Austin County—Raccoon Bend: Humble Oil & Refining Co. and Valley Oil joint No. 2 Reeae is around 3,000 feet. No. 1 Bellville school lands is at 3,310 feet in sandy shale. Hickory Mound: R. E. Graves' No. 1 Cleveland idle at 981 feet after setting casing. Kane and others' No. 1 Knolle is at 580 feet. Mewis and others' No. 1 Mewis is at 1,107 feet and idle.

Brazos County—Fountain and McAshan's No. 1 McKinney rigging.

Brazoria County — Stratton Ridge Dome: Gulf Production Co.'s No. 2 Perry is drilling on the south flank at 3,035 feet. The joint No. 1 Armstrong of the Pure Oil Co. and Humphreys Corp is around 3,800 feet. The Associated Oil Co.'s No. 1 Seaburn is drilling around 4,122 feet. Anchor: Staley and others' No. 1 Glover is around 1,100 feet.

Fort Bend County—Long Point Dome: The Gulf Production Co. has a location for No. 25 Davis and is drilling No. 4 Beard at 3,216 feet.

Harris County—Hockley Dome: The Humble Oil & Refining Co.'s No. 1 Warren is below 1,990 feet. Dr. P. S. Griffith's No. 2 fee set 6⅝-inch casing at 3,330 feet. Juniata Oil Co.'s No. 1 Kitsman, near Cypress, is drilling.

Jefferson County — Fannette Dome: Gulf Production Co.'s No. 3 Bordages is drilling around 5,186 feet. Big Hill Dome: Houston Oil Co.'s No. 1 Fitzhugh is at 2,315 feet. Leonard Petroleum Co.'s No. 1 Oswald is a derrick.

Montgomery County—Brain and others' No. 1 Fitch, near Spring, drilling below 1,985 feet.

Matagorda County — Hawkinsville Dome: Gulf Production Co.'s No. 3 Sanborn is below 2,840 feet, and No. 8 Craig is drilling at 4,409 feet.

Orange County—Gum Island: Miller Drilling Co.'s No. 1 Brown is at 2,307 feet. W. C. Wells' No. 1 Stark Adams Bayou is drilling around 2,314 feet.

Nacogdoches County—Stein & Lewis' No. 1 Birdwell is at 1,100 feet. The Sell Oil Co.'s No. 1 at Chireno is around 1,200 feet.

Washington County—The Pratt-Hewitt Co.'s No. 1 Konieczny is drilling around 2,870 feet. DeWare and others' No. 1 Lehmann is fishing for the drill pipe stuck at 2,710 feet. No. 1 Schurenburg is around 1,600 feet.

East Texas

Cherokee County—Bogey Creek Dome: Humble Oil & Refining Co.'s No. 2 Earle & Ragsdale is drilling below 2,668 feet, and No. 1 Reynolds is at 985 feet. The Magnolia Petroleum Co.'s No. 1 Sumners is idle in a sand showing oil at 4,323-29 feet. The Humble Oil & Refining Co. has abandoned the location for No. 2 Elliott & Clark.

Anderson County—Humble Oil & Refining Co.'s No. 1 Posey is at 3,854 feet. No. 1 Clemens is around 1,965 feet in chalk.

Houston County—Porter Oil Co.'s No. 4 Austin is rigging.

Shelby County—Clark & Melat's No. 1 Pickering abandoned at 3,250 feet. Magnolia Petroleum Co.'s No. 1 Pickering shut down at 1,880 feet. The Arkansas Fuel Oil Co.'s No. 1 Bouland is fishing for drill stem stuck in the hole at 3,725 feet.

South Louisiana

Most of the outside tests in South Louisiana are shut down on account of the high water, and work will probably be suspended for some time.

In Calcasieu Parish, the Border Research Corp. has a location for No. 2 in the northwest corner of Calcasieu Lake. The Calcasieu Oil Co. has started No. 1 Dorion.

In Cameron Parish, the Border Research Co. has resumed drilling No. 1 in Sabine Lake, 500 feet off shore. In the Sweet Lake section in the southeastern part of the parish, where the Pure Oil Co. has production, that company is drilling No. 4 in the water at 1,134 feet and No. 5 around 2,700 feet.

CALIFORNIA FIELDS

(Continued from Page 63)

lot area. There are still a number of drilling projects under way in the Huntington Beach Field, although the list of drillers is getting smaller each week. The Ahlburg Gasoline Corp. has two incompleted drilling projects while the Ambassador Petroleum, Concord Oil Co., Olympic Refining Co. and several others have one well being carried to completion.

Long Beach

A. J. Delaney finished the only new well added in the Long Beach Field during the week. This was the Delaney Petroleum Corp.'s No. 5, which was brought in flowing 750 bbls. of clean 30.2 gravity oil daily from 5,510 feet. Several of the other various deep wells in this field which were expected to have been completed during the past week failed to come up to expectations. The California Petroleum's No. 1 Flower State and No. 7 Girard of the same company were both distinct disappointments. The former is pumping about 150 bbls. to sump from 5,355 feet, while the latter is pumping 700 bbls. of fluid which cuts 60 per cent water from 5,484 feet. The General Petroleum's No. 1 Koberle was also disappointing as it only showed an initial pumping of about 25 bbls. daily from 4,801 feet. Core samples indicated a splendid sand below the 4,500 foot level and a good well was anticipated. The Graham & Loftus Oil Co. is drilling what looks to be a very promising well and at 4,986 feet No. 3 has all the earmarks of resulting in large production.

Richfield

Three new wells were finished in the Richfield District during the past week, two by the General Petroleum and one by the California Petroleum Corp. The latter's new producer was No. 14 Richfield Consolidated, drilled to 2,934 feet and finished with a 6¼-inch oil string. The initial pumping was 290 bbls. of clean 18.7 gravity oil but the well settled the following day and is now steadily pumping 150 bbls. The General Petroleum's largest new well was No. 3 Mullin, which was carried down to 4,428 feet and finished with a 5¾-inch oil string carrying 300 feet of 120 mesh screen. It came in under a natural flow, the initial 24-hour production test showing 520 bbls. of clean 23.1 gravity oil. The General Petroleum's No. 6 Hugo is being listed as a 180-bbl. well from 4,541 feet, the oil testing 21.5 degrees and showing a cut of 3 per cent. Both the General Petroleum and California Petroleum have additional drilling projects under way in this field. The former has two more potential producers on the Mullin lease and is erecting two steel derricks on the recently acquired Pedeco property. A survey of the various other drilling wells in the Richfield district reveals the fact that additional completions can be anticipated in the near future.

The Standard has been quite active in the Montebello Field recently and, in addition to tying up the 562-acre Clara Baldwin Stocker lease north and west of production, the company has just added another 200-acre tract to its holdings. The latest acquisition was leased from the Monterey Park Land Co. and immediately adjoins the Stocker holdings on the west. Immediate drilling on this lease is not contemplated but is dependent more or less upon the outcome of No. 1 Stocker-Merced, scheduled to get under way within the next week or ten days. Several new wells are scheduled to be completed in the Brea Olinda, or Fullerton Field during the course of the next 60 days but operations in this field are bing reduced principally because of the large amount of drilling being done in other areas. The Union has been the largest single operator at Brea Olinda but the recent curtailment in production in this district practically precludes the continuance of a large drilling program, as this would defeat the desired objective.

Ventura

The next successful completion in the Ventura Avenue Field should be No. 11 Barnard of the General Petroleum, which is showing up exceptionally well and has plenty of life at 5,835 feet. Drilling has not yet been concluded and with the hole in splendid shape the well may be carried down to the 6,000-foot level or below. The company's No. 1-A Hisey, while it has been showing considerable gas, does not seem to have the possibilities of No. 11 Barnard, although deeper drilling may improve the outlook. The Associated has a very promising looking potential producer in No. 6 Hartman and this well should result in satisfactory production upon completion. The Shell is running 10 strings of tools in this field at the present time but it will probably be several weeks before any of these new wells are brought in. The Bolsa Chica recovered from a temporary fishing job in No. 3 Hartman and drilling has just been resumed at 3,786 feet.

Kern River

Four new producers were finished in the Kern River Field during the past week and, while none of them resulted in large production, they were nevertheless profitable because of the shallow depth at which they were completed. The Chanslor-Canfield Midway Oil Co.'s No. 3 in Section 23-28-27 was good for 285 bbls. daily from 2,305 feet. No. 4 on this property is scheduled for completion some time within the next 15 days and favorable production is anticipated. The Standard's No. 7 in Section 27-28-27 went on production a few days ago at 2,314 feet and it is being listed as a finished project doing 220 bbls. daily, the oil testing 15.2 degrees and showing a cut of 2 per cent. George F. Getty finished another new well on the Tegeler property along the Kern River front in Section 22-28-27 and incidentally increased his daily production 135 bbls. This new well was No. 22, completed at 2,375 feet. The General Petroleum's No. 18 Young in Section 14-28-27 resulted in a 95-bbl. pumper from 2,138 feet, the well being finished with a 6⅝-inch liner.

Developments in the Goleta Field during the week were not as favorable as heretofore, in fact the Miley Exploration Co.'s No. 4 Tecolote proved a distinct disappointment when returned to production after being deepened from 1,458 feet to 1,476 feet. This well when first brought in a few weeks ago started off at the rate of 750 bbls. a day but failed to hold up and the company decided that a little more hole might prove beneficial. Upon being returned to production, however, it only registered a maximum output of 100 bbls. daily. No. 2 Tecolote, the discovery well, is a steady pumper at 135 bbls. per day. No. 1, which is being carried down for a deep test, has just passed the 3,550 foot level and, while one or two minor showings were logged below the present producing horizon, they did not warrant a production test. The Santa Barbara Oil Co., operating the Transcontinental holdings, stopped to test out the tar zone at 600 feet a week or so ago but resumed drilling when unable to secure commercial production. This well is down 1,100 feet at the present time and should pick up the Miley zone within the next 10 days. No. 2 is rigging up rotary equipment while a grade is being made for No. 3. The California Eastern Oil Co. spudded in No. 1 Ellwood in this field a few days ago and, while a small portable outfit is being utilized this should prove adequate to reach the shallow Miley zone. The Barnsdall, Clarence Berry and Graham & Loftus Oil Co. are making preparations to test out the area a mile or two north of the Goleta Field, and while they may perhaps be outside the proven limits of this district the section being prospected warrants this work.

Southern California Wildcats

One of the most interesting developments among the various wildcatters was the completion of a 750,000-foot gas well by the Reliance Home Investment Co. between El Segundo and Hawthorne in Section 8-3-14. The well in question is No. 1 Leuzinger, which may or may not have commercial possibilities as far as gas production is concerned at 1,125 feet. The gas encountered is reported to contain approximately 950 B.t.u. but is dry as far as natural gasoline is concerned. This gas zone has been known to exist in this area for a number of years; in fact several wildcats have been wrecked in the past when it was unexpectedly encountered. No. 1 Leuzinger is located approximately 1 mile northwest of the Smith Petroleum Co.'s wildcat which has found indications of oil at 6,200 feet and while the latter well does not look any too good as far as commercial crude oil production is concerned, the Leuzinger test may be a good bet for commercial gas production as it will be recalled that the Midway Gas Co. was sufficiently interested in this area to drill a 3,100 foot hole in search of gas production several months ago.

The Standard Oil Co. has a rig going up for No. 1 Rindge, a new wildcat located north of Culver City and drilling is scheduled to get under way in the very near future. The General Petroleum is abandoning its No. 1 Lomita at Sunset Beach as a dry hole and, while this duster practically precludes any further work in the immediate area, the surrounding district cannot be condemned by any means. Considerable leasing is being done in and around Westminister and approximately 500 acres have been tied up, one lessor agreeing to begin work within 30 days after the leases have been placed in escrow.

Northern California Wildcats

The Pacific Eastern Oil Co. found it necessary to recement its Bakersfield wildcat due to the fact that the first cement job did not effect a satisfactory water shut off. The Barnes Oil Co.'s shallow test in the Edison district in Kern County failed to come up to expectations on a production test and although considerable leasing has taken place as a result of the reported showings several of the major companies have passed up this section entirely. No one doubts the existence of an anticline in this area but its potentiality is being questioned. The General Petroleum's No. 1 Burbank in the Kettleman Hills is running true to form in that the bit picked up a shallow sand at 3,105 feet and preparations are being made to test out this sand. The Bolsa Chica has not yet resumed work on its Kettleman Hills wildcat, which is capable of producing 25 or 30 bbls. of heavy oil daily, and it looks as though the company

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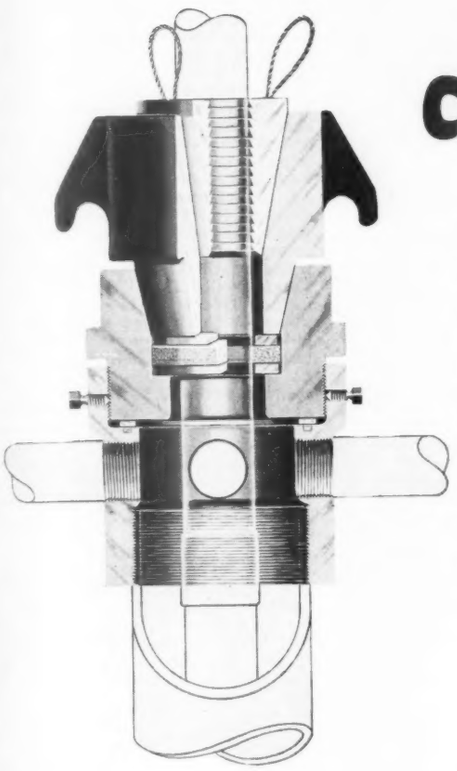
The Hinderliter FORGED STEEL CASING HEAD



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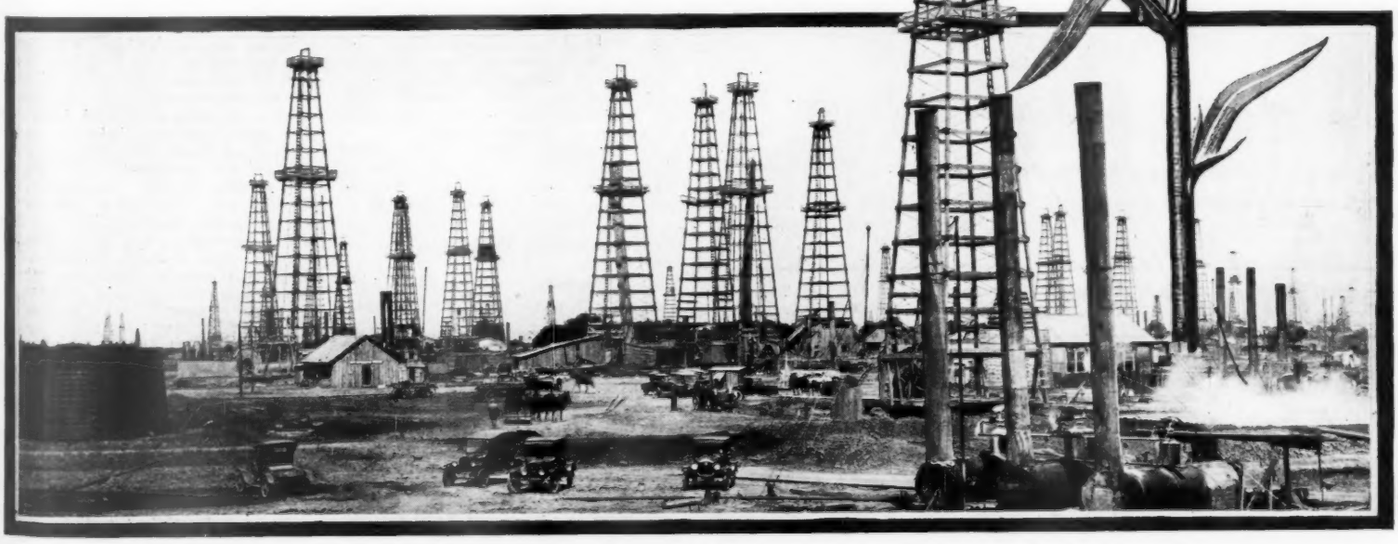

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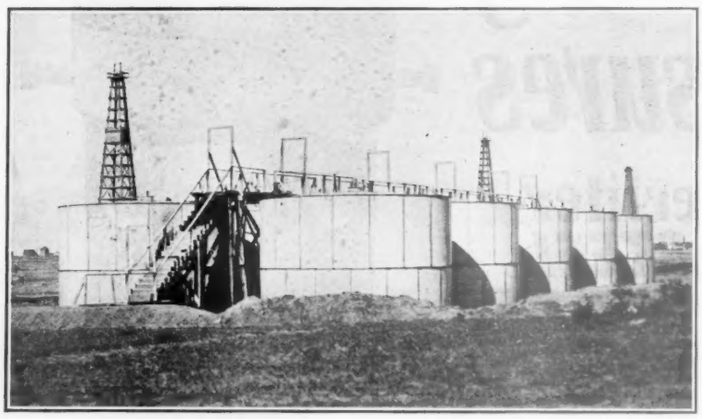

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MALONEY PATENTED BOLTED COPPER-STEEL TANKS

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will sit tight and await developments. W. M. Gilbert has a steel rig erected in Section 20-23-19 and drilling should get under way within the next 10 days. The Milham Exploration Co. has a rather interesting wildcat under way in Section 2-22-17 and since it is already down 3,091 feet it may bear watching during the course of the next 10 days or two weeks.

The Chanslor-Canfield Midway Oil Co. is scheduled to test out a shallow sand found in No. 1 Quinn near Delano some time during the coming week. This is the second test which the Chanslor-Canfield interests have drilled in this area and the outcome will therefore naturally be watched with interest. Neither of the Standard's two wildcats in Ventura County showed any improvement during the week, both No. 1 Montalvo and the test at Camarillo being devoid of any important showings to date. The Superior's No. 1 Pena near Piru in Ventura County has taken on a rather unfavorable outlook due to the absence of any promising indications from the grass roots down to 4,802 feet.

EAST TEXAS FIELDS

(Continued from Page 52)

rection and is probably on the Angelina-Caldwell flexure. Only one well has ever been drilled on this acreage. It showed gas. The data on the well as to depth and sand encountered was not available.

The Pandem Oil Co.'s deep test, in the Kosse area in Limestone County, was again reported to be showing oil at a depth around 4,600 feet.

In Anderson County, the Humble Oil & Refining Co.'s No. 1 Spencer Clemmons, Sassamon Survey, was drilling below 2,000 feet. The same company's No. 2-A Southern Pine Lumber Co., Morton Survey, was drilling below 3,765 feet.

In Cherokee County, the Humble Oil & Refining Co.'s No. 1 Reynolds Mortgage Co., Isaac Durst Survey, was drilling below 800 feet. The same company's No. 2 Earle & Ragsdale, Johnson Survey, was drilling below 2,500 feet in shale. The same company's No. 2 Elliott & Clarke, Windsor Survey, was rigged up.

In Ellis County, Farish, Watts & Collins' No. 1 Rochel, Dayton Survey, was drilling in lime below 3,500 feet.

In Franklin County, Trout and others' No. 1 Gandy, Truitt Survey, is shut down at 3,500 feet.

In Henderson County, Cranfill & Reynolds' No. 1 Purefay, Newell Survey, was drilling at 2,670 feet.

In Hunt County, Amerada Petroleum Corp.'s No. 1 Grainer, James Hamilton Survey, was fishing at 2,435 feet.

In Kaufman County, Cranfill Brothers are drilling below 2,500 feet in No. 1 Nicholson, Bennett Survey.

In Limestone County, C. W. Green and others' No. 1 Dies, Garrison Survey, was drilling below 3,735 feet. This test got Austin chalk at 2,590-3,050 feet.

LA.-ARK. WILDCATS

(Continued from Page 57)

doned No. 3 Davis, total depth being 2,301 feet.

Natchitoches Parish

Lawson & Phariss have a fishing job in No. 1 Clark Morse Lumber Co., Section 23-5-6. The drill stem was dropped in the hole at a total depth of 2,853 feet. Ohio Oil Co.'s No. 1 Thomas, Section 23-13-6w, is drilling at 2,098 feet. E. O. Readheimer is drilling shale and boulders in No. 1 Blewer, Section 10-11-8, depth being 800 feet. Tunica Petroleum Co. is arranging to abandon at 3,170 feet No. 24 L. & A., Section 35-13-6w.

Rapides Parish

George Sebastian and associates are drilling at 730 feet in No. 1 Ritchie, Section 38-5-4. This test has been shut down because of high water.

Red River Parish

Phillips Petroleum Co. has abandoned as dry at 3,305 feet its No. 1 Long Bell, Section 16-12-8. Gulf Refining Co. is cleaning out the hole of No. 23 Kennedy, Section 24-13-11. This test is at a total depth of 2,538 feet.

Richland Parish

Gulf Refining Co. is arranging to kill a gas blowout in No. 2 Rhymes, Section 5-16-5e. It has been making an estimated 15,000,000 feet of gas and 1,000 bbls. of salt water from a depth of 2,880 feet. All other operations in the parish are at a standstill due to the recent high water conditions.

Sabine Parish

L. M. Emlet has junked and abandoned No. 7 Bowman, Section 14-7-14 at a total depth of 2,623 feet but is skidding the derrick 60 feet west for a second hole. Arkansas Fuel Oil Co. is drilling chalk rock at 1,953 feet in No. 2 Logan, Section 28-10-12. In Section 33, the same company is down 211 feet in No. 6 Logan, and 2,314 feet in No. 7 Logan. In No. 8 Logan, 10-inch casing has been set at 179 feet, and in No. 9 Logan at 202 feet. In Section 32, the same company is drilling at 1,230 feet in No. 1 Moore, the 10-inch plug cemented at 198 feet being drilled out. No. 1 Rembert, Section 5-9-12, is in chalk rock at 1,771 feet, while No. 1 Williams, Section 33-10-12, is down 81 feet, drilling in rock. L. M. Emlet has drilled out the 10-inch plug cemented at 62 feet and is down 255 feet. Louisiana Oil Refining Corp.'s No. 1 Logan, Section 28-10-12, is drilling chalk rock at 2,050 feet. Lewis Clark Petroleum Co.'s No. 1 Wyatt, Section 23-5-12, is in shale at 4,185 feet. Magnolia Petroleum Co.'s No. 1 Hall, Section 33-10-12, is drilling at 2,000 feet. The same company has a rig up for No. 1 Louisiana L. L. L. Co., Section 2-6-11. Morgan and associates have started a derrick for No. 1 Reece, Section 5-9-12. C. W. Robinson and associates have a rig up for No. 1 Hamlin, Section 6-9-13. Woodley Petroleum Co. has cemented 6⅝-inch casing at 3,126 feet in No. 1 Robinson, Section 33-10-12.

Winn Parish

Dodge & Cordell's No. 1 Tremont, Section 35-13-3w, has been shut down at 1,140 feet. Humble Oil & Refining Co.'s No. 22-A L. & A., is drilling at 1,041 feet. Ten-inch casing was cemented at 42 feet. J. C. Long's No. 1 Milam, Section 28-12-3w, is drilling rock at 1,550 feet. It tested dry at 1,526 feet. Ohio Oil Co.'s No. 1 McCarty, Section 5-12-1w, is drilling at 1,846 feet. H. M. Roark is drilling at 490 feet in No. 1 Southern Minerals Co., Section 19-11-3w. Standard Oil Co.'s No. 1 Tremont, Section 1-12-2w, is drilling hard lime at 3,954 feet.

ARKANSAS

Union County

Sunny Jim Oil Co. got a 10,000,000-foot gas well in No. 4 Flenniken, Section 5-18-13, from a sand at 2,691-2,700. Simms Oil Co. has abandoned No. 1 Crawford, Section 14-18-13, with total depth at 2,705 feet. Garrett Modisette Drilling Co.'s No. 1 Union Saw Mill Co., Section 7-18-13, is to be cored at 3,917 feet. It was swabbed dry and showed salt water at 3,860 feet. Lion Oil & Refining Co.'s No. 1 Murphy, Section 23-18-18, is being drilled in sand shale at 2,083 feet. Ohio Oil Co.'s No. 1 Crain, Section 1-17-14, tested salt water at 2,842 feet. Six-inch casing has been cemented at 2,838 feet. Rice and associates' No. 1 Newton, Section 13-17-16, is at 1,709 feet. Rovenger Oil Corp.'s No. 1 McCain, Section 4-17-14, is being bailed 150 feet of bottom, showing oil, gas and salt water at 2,834 feet. Six-inch casing has been cemented at 2,824 feet. Sun Oil Co.'s No. 1 Thompson, Section 10-18-13, is at 2,544 feet, 8¼-inch casing having been cemented at 2,530 feet. Vaughan and associates are coring at 2,123 feet in No. 1 Ezell, Section 12-17-15.

Ouachita County

H. M. Harrell's No. 1 Ponder, Section 19-12-17, has been abandoned as dry at 1,660 feet.

Ashley County

Rhodes & Kicker's No. 1 Bledsoe, Section 20-15-7, has been abandoned at 2,554 feet.

Bradley County

Johnson & Adams have a fishing job on in No. 1 Southern Lumber Co., Section 12-12-12. The drill stem stuck at

1,800 feet. The test has a sand at 2,201-04 feet.

Calhoun County

Arkansas Natural Gas Co. has a rig up for No. 1 Stout, Section 2-13-14.

Clark County

Whelen Oil Co.'s No. 1 Burrow, Section 35-10-20, is drilling at 2,280 feet.

Columbia County

Atlantic Oil Producing Co. has set 12½-inch casing at 306 feet in No. 1 Couch, Section 23-17-20. Golquitt & Thomas are drilling at 2,021 feet in No. 1 Duffer, Section 23-18-19. Mitchell and associates' No. 1 Runyon, Section 3-16-21, has been shut down at 525 feet. Mitchell & Eylers' No. 2 Bodcau, Section 4-20-21, is in shale at 2,177 feet.

Grant County

Shaffer Oil & Refining Co. is arranging to abandon No. 1 Long Bell, Section 36-5-12. It has reached a total depth of 3,125 feet.

Hempstead County

Arkansas Natural Gas Co. is drilling at 1,200 feet in No. 1 Goodlet, Section 34-10-26.

Lincoln County

Pine Prairie Oil & Gas Co.'s No. 1 Carter, Section 33-10-6, has been shut at 647 feet. It only resumed operations last week after being shut down since early in March.

CANADIAN FIELDS

(Continued from Page 56)

the Elliott Contracting Co. and drilling is proceeding.

New Area South of Calgary

A new era about 15 miles south of Calgary will be tested near DeWinton where the Marquis of Anglesey has made a location in a hitherto untested area in LSD 1, Section 22-21-1w5. The location is about 3 miles southwest of DeWinton, and the test will spud in early in June. The Diamond Drill Contracting Co. of Los Angeles and Spokane are contractors, and Manager W. A. Stone is in Calgary making arrangements for drilling. Material is now on the ground and work will likely start next week on the derrick. The drilling outfit is the first of its kind to be used in Alberta, with a depth capacity of 6,000 feet and was specially selected to deal with the hard formations and heavy gas pressures of the Alberta Field. The rig, which includes three large motors, will be driven by power from the lines of the Calgary Power Co., which run within 300 yards of the location. The location is on the Roland Ness farm and drilling is under a perpetual rights lease; the Marquis of Anglesey holding some 5,000 acres of government leases in addition to considerable perpetual right leases in this area. The test will be known as the Anglesey-Lakefield well. The Marquis of Anglesey is Lord Chamberlain to Queen Mary.

In the Anglesey-Lakeview development, J. F. B. Kitson, secretary to the Marquis of Anglesey, will have charge of the business phases of the development, with the assistance of a field supervisor. In the drilling, it is planned to run 18-inch stovepipe casing a short distance, and 12½-inch till the surface water is shut off. Below this, 8¼-inch will be used. Frequent cores will be taken for geological purposes. If No. 1 test is successful, additional drilling will be undertaken. The Anglesey holdings are on the right-angle axis to the fold of the Turner Valley, the DeWinton structure being the first prairie structure east of the Sarcee Reserve. The Benton shale is exposed at the location. The area has never been tested for oil, though in 1914, the Canada Oil Co., now defunct, held leases here and a report was made on the area by Prof. J. A. Allan. Last year a water well on the Herbert Currie farm, SE, Section 20-21-29w4, struck a small gas flow at 50 feet. Northeast of the Anglesey holdings, a Calgary syndicate, headed by Robert Wilkinson, has 4,000 acres leased; and a High River syndicate has acreage near the Davisburg bridge.

In the Gleichen district, the Oil Producers Corp. has located a test 1 mile northwest of Gleichen, and is engaged in preliminary work on the site. The test will be spudded in next month.

Ribstone-Blackfoot

In the Ribstone-Blackfoot area, the London-Ribstone Petroleum, Ltd., financed largely by British capital, has taken over the 14,000 acres held by the Beattie syndicate of Vancouver. No. 1 test has been located in LSD 14, Section 10-43-3w4, some 12 miles southwest of Imperial-Ribstone No. 1.

In the Irma-Wainwright Field, east central Alberta, National Exploration Co., LSD 1, Section 30-45-6w4, is getting ready to set the surface casing around 350 feet. Arthur Mewburn is in charge, with Jack Cruze and Roy Hartling as drillers. British-Wainwright Oils, LSD 4, Section 22-45-6w4, is drilling below 1,000 feet. The outfit has been running one crew in charge of Dave Credille, but it is reported that Credille will move his outfit to the Ribstone-Blackfoot area for a test for the London-Ribstone Petroleum, Ltd.

J. V. McCuskie and J. V. Howell, geologists for the Hudson Bay-Marland Oil Co., are investigating the old Peace River Field in northern Alberta, and will later journey up the Peace River into the Liard River district.

A Wainwright, Alberta, syndicate has secured 2,000 acres of leases in the Rosthern district of northern Saskatchewan and is arranging to drill. The Big Six Oil Co. of Saskatoon has arranged for Geologist Arnolds of Great Falls to examine its acreage near Kenaston and locate a test.

In the Ontario fields, Union Natural Gas Co. has finished No. 265, J. Coatsworth farm, Romney Township, near Port Alma, with about 200,000 feet a day of gas. Union No. 266, Shanks farm, Romney Township, has been finished in the Tilbury sand with about the same production. Union No. 267 is spudding in on the George A. Jackson farm, Lot 183, Talbot Road, near Port Alma, in Romney Township; and Union No. 268 is rigging up on the same farm.

In the vicinity of Katesville, the Barr Co. of Detroit, has resumed drilling on its test on the F. Inch farm at 1,500 feet. The test will be carried as deep as possible with the present outfit, and a heavier outfit will be brought in for the deeper drilling. When the heavier outfit arrives, the light outfit will be used for a second test.

KANSAS FIELDS

(Continued from Page 52)

T. B. Slick's No. 1 E. Carson, SW cor. NW Section 20-32-3, is dry and abandoned at 3,564 feet. No. 4 Dibbons, NW cor. SW NW NE Section 22-32-4, was completed for 60 bbls. after a shot of 20 quarts in sand at 2,299-2,376 feet.

Elk County

Empire Gas & Fuel Co. made location for No. 1 Porter, NE cor. NW Section 13-29-8. Pure Oil Co. has the machine on the ground for No. 13 Webb, NW cor. SW Section 13-31-10. Leighty and others moved the machine out for No. 1 Webb, SE cor. Section 15-31-10. Superior Oil Co.'s No. 2 Knabe, SW cor. NW Section 7-31-11, is drilling at 615 feet.

J. S. Cosden and others' No. 1 Osborn, SE cor. NE SE SE Section 28-29-10, is dry at 2,335 feet. Pure Oil Co.'s No. 19 Chaffine, CWL SW SE Section 14-31-10, is good for 60 bbls. from sand at 1,637-48 feet. Union Gas Corp.'s No. 11 Leffingwell, NE cor. SE SE SW, Section 14-31-10, made 100 bbls. from sand at 1,635-50 feet. Frazier, Fowler and others' No. 5 Webb, NW cor. NE NW Section 23-31-10, is producing 100 bbls. from sand at 1,639-47 feet.

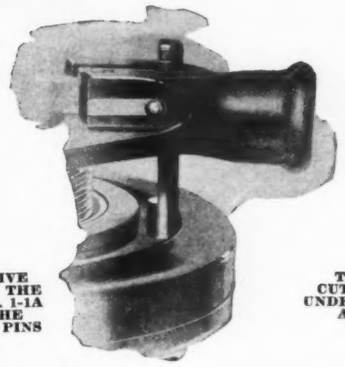
Geary County

Brinkley and others have built the rig for No. 1 Fawley, NE cor. NW SE Section 16-10-5.

Greenwood County

Theta Oil Co.'s No. 19 Browning, NW cor. SE NW Section 17-22-10, is spudding. Noble and others' No. 1 Lowery, SW cor. Section 22-26-9, is a rig. Henderson & Holdren's rig for No. 1 Turpen, NE cor. Section 28-26-9, is up.

Sinclair Oil & Gas Co.'s No. 55 Brown-



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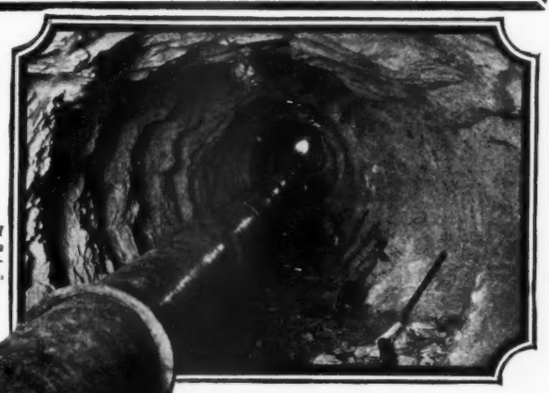

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ing, CEL SE Section 19-22-10, was shot with 60 quarts and completed for 100 bbls. in sand at 2,277-2,353 feet. No. 56 Browning, CWL SW SW, Section 20-22 10, made 100 bbls. after being shot with 60 quarts in sand at 2,319-94 feet. White and others' No. 3 Gray, NE cor. NW NE Section 26-24-9, made 25 bbls. from sand at 2,102-24 feet after a shot of 40 quarts. Empire Gas & Fuel Co.'s No. 5 Robertson, NE cor. SE SE Section 18-24-11, made 15 bbls. from sand at 1,825-39 feet after a shot of 40 quarts. Houer and others' No. 1 Cummings, SW cor NE NW Section 34-24-11, is dry and abandoned at 1,926 feet. Abel, Rhodes and others' No. 1 Erickson, NE cor. SW Section 17-24-13, was shot with 40 quarts and made 20 bbls. Superior Oil Co.'s No. 1 Lilly, NW cor. NE NE Section 22-27-9, is a dry hole at 2,293 feet.

Lyon County

Loy and others' No. 1 Jones, SE cor. SW SE Section 16-21-10, is dry at 2,222 feet. Balliere and others' No. 1 Holmerickhouse, C NE NE Section 22-21-12, has been abandoned at 2,006 feet.

Marion County

Arkansas Fuel Oil Co.'s No. 1 Damon, SE cor. SW Section 8-17-3, is dry and abandoned at 3,145 feet.

Reno County

Phillips Petroleum Co. made location for No. 1 Rowland, NE cor. Section 21-22-5.

Rice County

Skelly Oil Co.'s No. 2 Welch, SW cor. SE Section 35-20-6w, made 25 bbls. from chat at 3,385-3,482 feet. Independent Oil & Gas Co.'s No. 5 Walstein, NE cor. NW Section 2-21-6w, is making 120 bbls. from the chat at 3,376-3,436 feet.

Sumner County

Vickers & Johnson's No. 3 Shore, SE cor. NE SE Section 24-31-2, in the Churchill Pool, has been abandoned at 1,954 feet.

Woodson County

Sullivan and others' No. 1 Dye, NE cor. SE Section 2-24-13, is dry and abandoned at 1,807 feet. Culp and others' No. 1 Ekord, NE cor. SE NW Section 22-26-14, is dry at 1,526 feet Brinegar and others' No. 1 Shaffer, NW cor. NE Section 23-26-14, is a dry hole at 1,285 feet. Peerless Oil & Refining Co.'s No. 5 Lauber, SW cor. NW NE Section 23-26-14, is producing 200 bbls. from sand at 1,210-66 feet and total depth 1,303 feet. No. 6 Lauber, SW cor. NE SW NE Section 23-26-14, was shot with 240 quarts and made 250 bbls. from sand at 1,188-1,294 feet. No. 7 Lauber, NW cor. NE SW NE, Section 23-26-14, made 250 bbls. after it was shot with 240 quarts in sand at 1,195-1,301 feet. No. 8 Lauber, NE cor. SW NE Section 23-26-14, produced 200 bbls. after being shot with 160 quarts in sand at 1,237-1,322 feet No. 9 Lauber, SE cor. NE SW NE Section 23-26-14, is producing 200 bbls. from sand at 1,219-86 feet after being shot with 180 quarts. No. 4 Lauck, SE cor. NE NW Section 23-26-14, was completed for 285 bbls. in sand at 1,220-67 feet. No. 5 Lauck, SW cor. NE SE NW Section 23-26-14, is a 200-bbl. well in sand at 1,216-80 feet. No. 6 Lauck, NW cor. NE SE NW Section 23-26-14, is making 250 bbls. from sand at 1,212-62 feet. No. 1 Alvis, NW cor. NE SE Section 27-26-14, has been abandoned at 1,438 feet. Allison & Fitzwilliams' No. 1 Eaglebrecht, NW cor Section 20-26-15, is dry and abandoned at 1,444 feet.

OKLAHOMA FIELDS

(Continued from Page 52)

for 3,500,000 feet of gas in sand 4,075-92 feet.

Johnson County

Tom Dees' No. 1 Chastain, SE cor. NW, Section 26-4s-5, has been abandoned at 3,055 feet.

Kay County

Greer and others are moving in the rig for No. 1 Lane, SE cor. NE NE, Section 30-28-1. Midco Oil Co. has the machine on the ground for No. 1 Poole, NE cor. NW, Section 31-25-1w, to be a shallow test. Twin State Oil Co.'s No. 2 Moore, SE cor. Section 17-29-1w, was completed for 20 bbls. in the Wilcox sand 3,490-3,553 feet. Comar Oil Co., No. 7-W Buell, SE cor. SW NE, Section 21-29-1w, North Braman Pool, has been completed for 20 bbls. in the Wilcox sand 3,345-95 feet. No. 5-W McCormick, NE cor. NW SE, Section 21-29-1w, was shot with 5 quarts and completed for 75 bbls. in the Wilcox sand 3,339-66 feet. National Union Oil Co. & Marland Oil Co.'s No. 1 Glasgow, SW cor. NW, Section 6-26-1w, Hubbard Pool, was deepened to 3,656 feet in the Wilcox sand and shot with 20 quarts and made 57 bbls. Marland Oil Co.'s No. 1 Rupe, SW cor NW, Section 10-25-2w, Thomas Pool, has been abandoned at 2,017 feet.

Lincoln County

Mid-Continent Petroleum Co.'s No. 1 School land, NE cor. Section 16-13-6, drilled to a total depth of 4,495 feet and plugged back to sand 4,283-42 feet and completed for 10 bbls.

Logan County

Healdton Oil & Gas Co's No. 1 Gragg, NW cor. SE, Section 16-18-4w, was completed for 16,346,000 feet of gas in sand 3,993-4,004 feet.

McIntosh County

McInturff's No. 1 J. Edwards, NE cor. Section 4-12-14, has been completed for 15 bbls. in sand 1,469-79 feet.

Muskogee County

Harry Smith's No. 5 Pouncil, NE cor. SW NE, Section 25-15-15, is spudding. Jolly-Ogg Oil Co. is rigging up No. 2 Lewis, NW cor. SW NE, Section 17-15-17, to deepen from 1,383 feet. Haldford Co. has a machine on the ground for No. 1 Walker, SE cor. SW NW, Section 23-15-17. C. M. Bradley's No. 5 Goodrich, NE cor. SW NW SW, Section 5-14-19, is spudding.

Oklahoma County

Cromwell Oil & Gas Co.'s No. 1 Edwards, SW cor. NE SE, Section 10-12-3w, has been completed for 40 bbls. in sand 4,383-89 feet.

Okfuskee County

Independent Oil & Gas Co. made location for No. 2 Hall, SW cor. NE NE, Section 29-12-10. Mid-Continent Petroleum Corp. is moving in the rig for No. 1 Simon, SE cor. NW NE, Section 21-10-9.

Mid-Continent Petroleum Corp.'s No. 1 Tecumseh, an old well, NE cor. NW NW, Section 21-10-9, is making 10,000,000 feet of gas from the original sand 3,232-40 feet, after being cleaned out and it was decided not to deepen. Empire Gas & Fuel Co.'s No. 1 A. Grayson, NE cor. NW NE, Section 30-11-10, an old well was deepened to sand 3,128-34 feet and completed for 24,000,000 feet of gas. H. H. Diamond's No. 3 Jones, SE cor. NW NW, Section 27-13-11, is dry and abandoned in the Wilcox sand 3,280-3,314 feet.

Okmulgee County

F. Hyer is rigging up machine for No. 1-A McKinney, SE cor. NW SW, Section 16-15-14. J. C. Lampert's No. 4 Flint, C SW SE, Section 27-14-14, an old well, is drilling deeper at 1,700 feet. W. B. Pine has the rig on the ground for No. 2 Burgess, SW cor. NE SW, Section 17-12-13. Empire Gas & Fuel Co. has the rig on the ground for No. 1 Bright, SE cor. SW NW, Section 18-15-12. Hammon and others have the rig up to deepen No. 3 Lee, SW cor. SE SW, Section 26-15-12.

Hennessey Oil Co.'s No. 2 Rentie, NW cor. NE SE, Section 3-15-14, is dry and abandoned at 2,091 feet. Carr Peterson's No. 1 E. Ware, SW cor. NE SW, Section 9-15-14, was completed for 7,000,000 feet of gas in sand 1,831-35 feet. Misener & Moore's No. 10 Francis, C SW NW, Section 11-15-14, is dry and abandoned at 1,975 feet. M. S. Musselem's No. 2 Rentie, NW cor. NE SE, Section 19-14-15, has been completed for 10 bbls. in sand 1,418-58 feet after a shot of 60 quarts. Wheeler & Empire Gas & Fuel Co.'s No. 1 Arnold, NE cor. NW SE, Section 3-15-12, has been abandoned after finding water in the Wilcox sand 2,616-21 feet. Simms Petroleum Co.'s No. 1-A Kay, SE cor. NE NE, Section 14-12-12, is dry and abandoned in the

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Kingwood sand 3,114-65 feet. Seburg and others' No. 1-A Tunelly, C NE SE, Section 32-12-12, is making 20 bbls. from the salt sand 1,585-1,662 feet.

Osage County

Tidal Oil Co. made location for No. 1, NE cor. SW, Section 32-29-9. Osage Gas Producers made location for No. 378, NW cor. SE NW, Section 5-27-11. Stephenson, Henry & Rock made location for No. 1, SW cor. NW SW, Section 13-26-8. Zola Oil Co. made location for No. 46, SE cor. NE SE, Section 16-25-12. Oklahoma Natural Gas Co.'s No. 767, SE cor. NE, Section 27-21-10, is drilling at 1,100 feet.

Wah-Sha-She Oil Co.'s No. 1, NE cor. Section 21-29-9, was completed for 5 bbls. in the Burgess sand 2,163-70 feet. L. C. Duffield's No. 17, NW cor. SW, Section 35-29-10, was shot with 20 quarts in the first break in the lime 1,730-40 feet and made 8 bbls. Kewanee Oil & Gas Co.'s No. 9, SW cor. NW NW, Section 34-27-6, a location, has been abandoned. The Texas Company's No. 9, NW cor. NE NE, Section 28-26-6, was completed for 125 bbls. in the Burbank sand 2,590-76 feet after a 60-quart shot. No. 10, SW cor. NE NE, Section 28-26-6, was shot with 30 quarts in the Burbank sand 2,968-80 feet and made 125 bbls. Phillips Petroleum Co.'s No. 4, SE cor. NE, Section 29-26-6, made 70 bbls. after a shot of 120 quarts in the Burbank sand 2,927-83. No. 12, SE cor. NE NE, Section 29-26-6, was shot with 140 quarts in the Burbank sand 2,888-2,944 feet and made 110 bbls. No. 1, NE cor. SE, Section 9-24-7, has been abandoned at 2,832 feet. Indian Territory Illuminating Oil Co.'s No. 364, SW cor. NE SE, Section 20-23-8, is making 2,000,000 feet of gas from the Layton sand 1,098-1,104 feet. A. J. Wright & J. A. Davis' No. 1, SW cor., Section 15-21-9, has been abandoned at 1,630 feet. Tidal Oil Co.'s No. 2, SE cor., Section 28-21-10, made 40 bbls. from the Bartlesville sand after it was shot with 70 quarts.

Pawnee County

Ora Steen's No. 2 Cowan, SW cor. NW NW, Section 22-20-7, is dry and abandoned at 2,610 feet. Turner and others' No. 1 Laramy, SW cor. NW NW, Section 20-20-7, made 15 bbls. in sand 2,779-2,800 feet after two shots.

Pontotoc County

Carter Oil Co.'s No. 1 Coon, SW cor. NE NW, Section 5-3-4, is a dry hole at 2,108 feet.

Pottawatomie County

Gypsy Oil Co. made location for No. 2 Doebling, SE cor. NW, Section 4-9-5. Mid-Continent Petroleum Co.'s No. 2 McKinley, NW cor. SW, Section 9-9-5, made 4,565 bbls. from the Wilcox sand 4,281-83 feet.

Hughes County

The Prairie O. & G. Co.'s No. 1 Kennedy, SW cor. SE SE, Section 26-9-9, was abandoned at 3,030 feet.

Seminole County

Gypsy Oil Co. made location for No. 6 Peters, SW cor. NW SW, Section 10-9-5, Earlsboro Pool. Sinclair Oil Co. made location for No. 2 Grisso, NE cor. Section 22-9-6, Seminole Pool. Atlantic Oil Producing Co. has the cellar dug for No. 1 Jones, SE cor. SW SE, Section 9-8-6, Bowlegs Pool. Sinclair Oil & Gas Co. made location for No. 2 Jones, NE cor. SE SE, Section 9-8-6. Location was made for No. 3 Jones, SE cor. NE SE, Section 9-8-6. Pure Oil Co. has the rig on the ground for No. 1 Strothers "F", SE cor. NW, Section 10-8-6. Sinclair Oil & Gas Co. made location for No. 1 R. Cumsey, SW cor. NE, Section 10-8-6. Location was made for No. 3 Taylor, NW cor. SE, Section 10-8-6. Tidal Oil Co. has the cellar dug for No. 3 Harjoche, SW cor. NE SW, Section 10-8-6. Barnsdall Oil Co. made location for No. 3 Murrow, NE cor. SW SW, Section 11-8-6. The location for No. 4 Murrow was made SE cor. SW SW, Section 11-8-6. Indian Territory Illuminating Oil Co. made the location for No. 1 Lizzie, SW cor. NW, Section 11-8-6. Pure Oil Co. has the rig on the ground for No. 4 Strothers "D", SW cor. SE SW, Section 11-8-6. The rig is also on the ground for No. 5 Strothers "D", NW cor. SE SW, Section 11-8-6. Atlantic Oil Producing Co. is building the rig for No. 2 Grayson, NW cor. SW NW, Section 13-8-6. The Texas Company is building the rig for No. 9 Reed, SE cor. NE NE, Section 14-8-6. Carter Oil Co. made location for No. 8 Harjoche, NE cor. NW NW, Section 14-8-6. Pure Oil Co. has the rig on the ground for No. 3 Strothers "D", NW cor. NE NW, Section 14-8-6. Atlantic Oil Producing Co. has the rig on the ground for No. 4 Fleet, SE cor. NE NW, Section 23-8-6. Carter Oil Co. made location for No. 10 W. Wise, SW cor. NW NE, Section 23-8-6. Location was also made for No. 11 W. Wise, NW cor. SW NE, Section 23-8-6. The rig is being built for No. 10 Casey, SE cor. NE, Section 31-8-8 in the Wewoka Pool. Twin State Oil Co. has the rig on the ground for No. 1 Walker, NE cor., Section 5-7-6. The Prairie Oil & Gas Co. is digging the cellar for No. 6 Harber, NW cor. SE SW, Section 10-8-6 Bowlegs Pool.

The Texas Company's No. 4 Wilmont, SW cor. NE SE, Section 10-9-5, Earlsboro Pool, was completed for 350 bbls. in the Earlsboro sand 3,620-32 feet. Barnsdall Oil Co.'s No. 2 J. Davis, SE cor. SW NW, Section 11-9-5, had an initial production of 300 bbls. in the Earlsboro sand 3,550-82 feet. Carter Oil Co.'s No. 4 Frazier, SE cor. NW NW, Section 3-9-6, Searight Pool, was completed for 1,500 bbls. in the Wilcox sand 4,502-8 feet.

Wilcox Oil & Gas Co.'s No. 1 Cluck, NE cor. NW NE, Section 4-9-6, made 1,800 bbls. from the Wilcox sand 4,358-80 feet. Carter Oil Co.'s No. 9 Killing, SW cor. NW NW, Section 23-9-6, Seminole Pool, was shot with 30 quarts and made 2,080 bbls. from the Wilcox sand 4,144-67 feet.

Carter Oil Co.'s No. 2 Simpson, SE cor. SW SW, Section 35-9-6, made 110 bbls. after a shot of 40 quarts in the Wilcox sand 4,119-4,209 feet. Barnsdall Oil Co.'s No. 1 Kepeya, NW cor. NE SW, Section 7-9-7, has been completed for 4,000,000 feet of gas in sand 3,548-60 feet. Sinclair Oil & Gas Co.'s No. 1 C. Jones, SE cor., Section 9-8-6, produced 3,765 bbls. from the Wilcox sand 4,083-4,111 feet. Pure Oil Co.'s No. 6 Reed, SW cor. NE SW, Section 14-8-6, had initial production of 2,015 bbls. on air from the Wilcox sand 4,315-22 feet. Sinclair Oil & Gas Co.'s No. 2 Harjo, NE cor. SE SE, Section 14-8-6, was completed for 5,045 bbls. from the Wilcox sand 4,200-24 feet. Amerada Petroleum Corp.'s No. 8 Rascoe, NW cor. SW, Section 15-8-6, Bowlegs Pool, made 4,860 bbls. on air from the Wilcox sand 4,117-4,218 feet. Indian Territory Illuminating Oil Co.'s No. 2 Walker, SW cor. NE SE, Section 15-8-6, made 1,275 bbls. when put on air, producing from the Wilcox sand 4,170-4,206 feet. Sinclair Oil & Gas Co.'s No. 1 Walker, NW cor. NE NE, Section 22-8-6, had the Wilcox sand 4,124-50 feet and completed for 1,500 bbls. Carter Oil Co.'s No. 4 Wise, NE cor. NW NE, Section 23-8-6, made 3,385 bbls. in the Wilcox sand 4,215-40 feet. Indian Territory Illuminating Oil Co.'s No. 3 Barnett, NE cor. SW NW, Section 24-8-6, after rigging up the rotary has been abandoned. No. 3 Youngblood, SW cor. NW NW, Section 24-8-6, was completed for 436 bbls. in the Wilcox sand 4,405-06 feet. Independent Oil & Gas Co., and Marland Oil Co.'s No. 1 Johnson, NE cor., Section 28-8-6, has been abandoned in the Wilcox sand 4,495-4,510 feet.

Ramsey Oil Co.'s No. 1 Sampson, NE cor. SE SW, Section 31-8-8 Wewoka Pool, an old well deepened lost the hole and was abandoned at 3,600 feet. Palmetto Oil Co.'s No. 1 Charley, C NE NW, Section 33-6-6, drilled to 4,009 feet, plugged back to 3,190 feet and was shot with 140 quarts and plugged. The Prairie Oil & Gas Co.'s No. 10 Kinkade, SW cor. SW SE, Section 33-10-6, Searight Pool, was completed for 500 bbls. in the Wilcox sand 4,410-13 feet. No. 6 Strothers, NW cor. SE SE, Section 27-9-6, Seminole Pool, made 1,335 bbls. in the Wilcox sand 4,213-34 feet. No. 1 Gahagan, NE cor. SE NE, Section 23-8-6, made 2,400 bbls. in the Wilcox sand 4,214-25 feet. No. 1 Harber, SE cor. S half SW, Section 10-8-6, was completed for 3,700 bbls. in the Wilcox sand 3,880 feet. No. 3 Harber, SE cor. SW

(Continued on Page 169)

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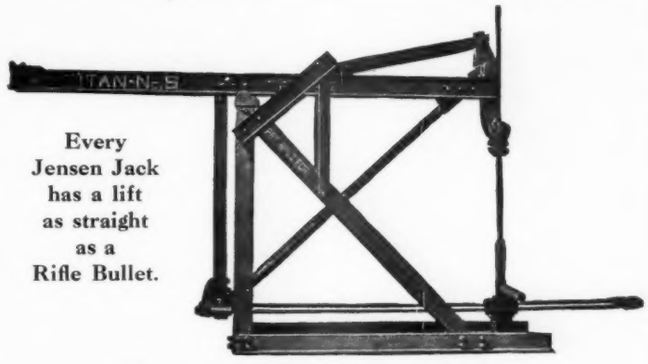

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WANT to buy small producing royalties if priced right. Also production 10 bbls. or up. Address, giving full particulars, Box B-851, The Oil and Gas Journal, Tulsa, Okla.

INFORMATION WANTED of oil wells and oil holes, which at some point in their depth have showed oil—real oil—a well, say of one to ten or twenty barrels, and have not had a field developed around them, or have not been made into commercial wells themselves.
Will pay for the information provided upon investigation by advertiser, the information furnishes a real basis or point from which to work out structure or high or raise, which could be drilled. Jamot Brown, Florence, Colo.

WANTED—Blocks of acreage for future development in Oklahoma and Texas. No immediate drilling contracts considered. Submit maps and geology. Box B-833, The Oil and Gas Journal, Tulsa, Okla.

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YOUNG MAN, now employed in Oklahoma, desires position in Texas, preferably as scout or in land department; 11 years' experience in various departments. Box B-862, The Oil and Gas Journal, Tulsa, Okla.

TANK CAR SALES MANAGER wants to connect with some reliable and progressive concern. I have made good in every position to date and will make good in the next one.
My experience, executive ability, capacity, persistency and bull-dog tenacity will aid me. I will make you feel I have more than earned every cent of salary.
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WANTED at once, expert Plane-table man. Only those with best references and three years' experience need apply. Laughlin-Simmons & Co., 303 Atco Bldg., Tulsa, Okla. Phone 3-5985.

WANTED—Major independent oil organization needs salesman to handle oil lease sales and royalties, surrounding its deep tests in West Texas and in Gulf Coast. Proven salt domes; commission and liberal participation to right man; chance of lifetime. Write P. O. Box 683, Fort Worth, Tex., for particulars.

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REFINERY DRAFTSMAN
Must be good draftsman, thoroughly acquainted with oil refinery layout. College trained men preferred. Box B-850, The Oil and Gas Journal, Tulsa, Okla.

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The Company has a solid block of 2,300 acres, good geology, and will make a thorough test.

We have for sale all the acreage surrounding this block for a half mile and more. All leases commercial, 10 years, Magnolia Form X-1568, first rental of $1 due January 1928, leases of record and abstracted.

Will sell in blocks 10 acres or more within the half mile limit of Magnolia block at $10 per acre. Beyond this limit at $5 per acre. Abstracts furnished on 40 acres or more. Attorneys Certificate on less.

Have royalty of 1/16 within half mile well at $10 per acre.

If you want to buy, write for maps, copy of geology or other information. Four other wells going down in this vicinity, two of them now drilling. Best bet in Oklahoma for the money. Only eight miles East of the Bilbo field in Marshall County, and will undoubtedly be a good shallow field.

Reference by permission; Merchants & Planters National Bank, Commercial National Bank, Central State Bank, all of Sherman, Texas. First National Bank, Durant, Okla. You may be assured of a square deal, and if you want to take a little gamble, which offers great possibilities of big returns, Act Now. Next week may be too late. Address:

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HORACE MARSHALL, Durant, Okla.

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ONE-SIXTEENTH oil, gas and mineral rights for sale, Northeast Fayette County, leased by Sun Oil Co. See A. H. Becker, Jr., Carmine, Texas.

WILL BUY producing royalties and close-in non-producing royalties from owners giving full details and right price. P. O. Box 1440, Tulsa, Okla.

LEASES—PRODUCTION

DRILLING blocks, good geology also acreage near drilling well, Runnels County, Texas; trend of production. C. E. Sillix, Ballinger, Tex.

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40 ACRE tract of land in McCurtain County, Okla., prospective oil value, $3.50 per acre, will send deed and abstract attached to draft to your bank for examaination. P. T. Calahan, Idabel, Okla.

20-ACRE oil and gas lease, Section 7, Block 26, Tracts No. 56, 57, 40, 41, 2 miles south of White Eagle Oil Co.'s well, 7 miles north of the Westbrook oil well in Winkler County, Texas. Make offer. J. Schoenborn, 2421 High St., Chicago, Ill.

LEASES—PRODUCTION

$5 PER BBL. being paid for Cuban crude by local refinery. Gasoline retails Havana 30 cents. Why suffer from low prices in U. S. A.? Have acreage semi-proven territory, near present production. Investigate. Manuel Soto Navarro, Sama 22, Marianao, Cuba.

WILL LEASE

25,000 acres Brewster County, Texas, on Marathon Fold; make your best offer. Owner Earl K. Duke, P. O. Box 1099, Wichita, Kans.

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130 ACRE lease near Magnolia Cannon No. 2 Upshur County, $7.50 per acre. Also royalties. C. H. C. Anderson, 712 Linz Bldg., Dallas, Tex.

For Sale
OIL
LAND OR LEASE
Crane County
Texas

640 cares, Crane County, one half mile frontage on Pecos River, Southeastern part County, proven oil country. Leads in production. Section 8, Block No. 1, Certificate No. 40-4750. Crane County, Texas.

WRITE J. E. SHERMAN.
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A DESCRIPTION of your used equipment run in these columns will sell it for you at a nice profit.

ATTENTION—Companies, syndicates and investors. Forty thousand acres, solid block, southwest Texas, good geology, will sell commercial lease with well completed, can arrange terms for syndicating. Half million dollars worth acreage can be sold with well drilling, worth investigating. Box 663, Cisco, Texas.

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Two producing leases located in Allen County, Ky., connected with the pipe line. Settled production. Fully equipped. Connected with pipe line. Owners interested in a proposition from a reliable company needing production to assist in financing leases. Eleven producing wells. Would accept stock in reliable firm as payment.

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15,000 acres, Brewster County oil and grazing land, on State Highway, well fenced and watered, good grass at $1.50 per acre, bonus, including oil rights. Box per acre, bonus, including oil rights. McCrary Realty Co., 511-13 Rust Bldg., San Angelo, Texas.

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DRILLING BLOCK secured on approved acreage and well supervised; no bonus; we keep some acreage as fee. Nicolle, Petroleum Geologists and Operators, Box 1720, Fort Worth, Tex.

WILL trade leases around wildcat well drilling on geology for other leases similarly situated. Eldon J. Dick, 421 Mid-Continent Building, Tulsa, Okla.

LEASES—PRODUCTION

FOR SALE — About 20 bbls. settled production in old field in Allen County, Ketucky, about 3 miles from Scottsville, Ky. About 10 wells equipped and pumping, and is 12 years old. Address Box No. 94, Scottsville, Ky.

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Twelve hundred acres Adair and Cumberland Counties, Kentucky, under lease adjacent to production, would sell outright or reserve interest with responsible operator. Have two steam driven Imperial Type X, Ingersoll Rand Air Compressors 12x15x12x6¾x16, used ninety days. Sell at reduced figure.

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I am at the Claudia Apartment No. 17, 212 4th St., San Antonio, for a short period for the purpose of selling our three ranches in North Central Duval County, McMullen County and Zuvalla and Maverick Counties, Texas—a total of over 40,000 acres at prices and terms etc., most inviting. While these are excellent livestock ranches some mixed farming is being done and eventually the greater part of this area will be operated agriculturally. Also as these ranches lie in the general trend of oil development, drilling is just starting under the supervision of responsible people.

Communications in care of above address will receive prompt attention.

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Can furnish practically proven leases in Artesia Field, Eddy County. Also other tracts in Eddy, Chaves and Lea Counties. Particulars or request.

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Drilling blocks available to responsible companies or individuals with tools ready to drill on the Ringling tract in Sarasota County in close proximity to Salt Springs and well No. 1 of the Associated Oil & Gas Co., now drilling. The geology has been favorably reported on by geologists and experienced oil men. For other information, write

KENNETH HAUER
Sarasota, Fla.

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160 ACRE Oil Lease on formation $1,600. Will take $1,000 interest in drilling. 520 Broadway, Joplin, Mo.

AMARILLO PANHANDLE OIL FIELD

Underwriter Brainard Ranch oil and gas leases, 25,000 acres in Hutchinson County. Hutchinson County is the major producing area. New 5-year leases from 20 acres to 160 acres. Bought right, can sell at reasonable price per acre. Write for map and prices. I have handled, as underwriter, over 60,000 acres in the field on which over 80 wells are now drilling or producing. Ed R. Mayer, Amarillo Hotel Bldg., P. O. Box 1186, Amarillo, Tex.

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WINKLER—PECOS COUNTIES
Leases and Royalties
W. S. PATTERSON
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OKLA. oil and gas lease, proven territory, production certain, if interested write for terms. Anton Koch, Henryetta, Okla.

FOR SALE — Selected oil and gas leases adjoining producing and drilling leases in Barren County, Kentucky. Prices right. L. W. Preston, Glasgow, Ky.

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Drilling blocks. Leases. Royalties. Ranches in fee.

H. F. Anthony, Pecos, Tex.

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8,500 acres near Sabine River. Opposite oil field at Starks, La. R. S. Barber. Owner, Box 88, Beaumont, Texas.

FIVE YEAR Commercial lease on six thousand acres situated on two salt dome structures. Drilling optional. Test drilling; others to be drilled. Address Box 132, Delcambre, La.

FOR SALE—Oil leases in Cimarron, Texas, Beaver and Woods counties. Orbee Lease Co., 1114 Colcord Bldg., Oklahoma City, Okla.

ADDRESSES WANTED

WILL PAY reward for information and exact location of T. D. Millsap, formerly of Blackwell, Oklahoma. Believed to be at Seminole. Address replies "Missing Department," Box 1336, Oklahoma City, Okla.

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Chicago Gasoline Market Still Firm

Demand Continues Moderate With Coming Holiday and Improving Roads Encouraging Factors in Situation

By John B. Waldo

CHICAGO, May 23.—The gasoline spot market continues firm in tone but with a range of prices that does not indicate any change in the demand which has been moderate and so continues. With but one or two exceptions, U. S. Motor gasoline was offered by refiners today at 6¾ cents but one refiner was still selling at the half and one other was asking 7 cents. There was little buying and the bulk of the business placed was in orders for single cars or small lots. Salesmen from various parts of the territory report that the road situation is still very bad especially in the southern part of Illinois and Indiana. Where the roads are in good condition the gallonage is very good. This city and vicinity had a warm week-end and the number of cars out was large.

Kerosene moved slowly today, a few routine orders being the total business reported. Gas oil is very firmly held but buyers are holding back from placing orders unless at a concession while some refiners advanced their price and 3 cents or an eighth less is the quotation made by several sellers for dark gas oil. The fuel oil market was unchanged but prices are rather strongly held and the market shows a very steady tone. Memorial day comes one week from today and is usually a day of large consumption of gasoline and the prospects of this consumption is encouraging to the market.

Little Spot Buying

Since the adjustment of the tank wagon scale on May 10, there has been comparatively little buying of gasoline in this market by spot buyers. Deliveries on contracts are good, the quantity of undelivered gasoline on marginal contracts with leading refiners being small. Reasons for this lack of really important spot business are chiefly the bad weather over the territory, the heavy buying during the week preceding the tank wagon change and the stocking up of the large buyers at the time that one or two refiners were unloading accumulations of gasoline at low prices. These large sales simply resulted in the transfer of the stocks of gasoline from the storage of the refiners to the tanks of the dealers. The gasoline has been consumed only in part and has been added to so far as the dealers' stocks are concerned by recent shipments on previous orders. The buying has come largely from the smaller dealers who carry limited stocks at any time, not from buyers who have considerable storage. There has been a steady if limited demand right along but up to the close of last week there was no real increase in the business done here.

For example, Peoria, Ill., is an important gasoline-consuming center. The heavy storm of last Wednesday was stated to have been the sixty-fourth storm this year. In many sections where there have been no heavy storms there have been light rains, much cloudy weather and the roads show little improvement. Where conditions are favorable the stations report a very large gallonage for this time of the year. This is more particularly true in the southern parts of the territory where they have had warm weather. Here even when the days have been clear, the weather has been too cool for comfortable riding.

Easier Than Group 3

The Chicago market was persistently easier in tone than the Group 3 market. This is due in a great degree to the quantity of gasoline bought for resale at prices not over 6¼ cents and much of which has been slow to move. There are some orders at the price named that will not expire until June 15 and rather ample quantities for delivery over the remainder of this month. This gasoline has been offered and sold at 6½ cents and until it is more largely absorbed by the dealers this price seems likely to rule unless there is a return of the buying movement that was checked by the change in the tank wagon price. That price change may not have been as influential in stopping the buying as it appears to have been. Doubtless a large number of dealers had completed their purchases for the time being just about the time when the Standard Oil Co. of Indiana announced the change in its scale.

In spite of the indifference of buyers in this territory there has been a rather firm tone to the market, the bulk of sales of U. S. Motor gasoline last week being made at 6½ cents. Jobbers who are not in immediate need of supplies have been insistent on lower prices than the 6½-cent quotation, some of them asking for a cut equal to the decline in the tank wagon scale. Of course most of these dealers were "bluffing for a price," as the trade says. When the dealers were actually in need of gasoline they paid the 6½-cent price easily but it was difficult to secure a better figure. Some of the refiners with their own list of special customers under contracts that call for the taking by that customer of all his supplies from the refiner were able to sell at slightly higher prices, some asking 6⅝ cents, but there was very little sold at any higher figure although during all of last week there were refiners who held for 6¾ cents, basing their price on the Group 3 market. It might be said that most of these stated that they were in a very comfortable position as regards stocks and all had a distribution system of their own as well as many marginal contracts so that they were not obliged to compete for business. Their spot sales were admittedly small.

Dealers' Profits Small

In many parts of the territory the reduction in the prices to consumers has placed the jobber where he is not able to show a real profit. Some of these are appealing for help from their refiners. For example, there are many Michigan points which carry a freight charge of 3.70 cents per gallon and have a tank wagon scale of 14.8 cents. On the basis of 6½ cents, Group 3, the cost of gasoline laid down at these points would be 10.20, cents allowing the dealer a margin of 4.60 cents which would seem sufficient. The great trouble is that the Q. D. A. cuts into this margin, practically all sales in most places carrying a discount of 1 cent and ranging as high as 3 cents to large buyers. But this is not all. Some of the dealers depending on a continuance of the margin have made contracts with their customers in which they allow various discounts on monthly purchases amounting to from 2 to as high in one case, which it is hoped is exceptional, 5 cents. Some leading dealers in Michigan territory have stated that they had to have a margin of 4½ cents to keep out of the red. These dealers are evidently not able to make a profit on their gasoline business if they secure the full price while it must be evident that if they are giving even the least liberal discounts it is only on their station sales to cash customers that they can show a profit. Some have reported that they are able to buy at the lake ports from refiners who are in position to ship to these ports by tankers at prices under the best Group 3 price, allowing for the difference in freight costs from the port to their bulk station. Several Illinois jobbers have also stated that they were conducting their gasoline business at a loss under the new scale because of the discounts. Refiners who have been operating at a loss since the first of the year, as many them state has been the case, do not see that they are in position to give these jobbers any relief which, of course, means a lower price than the present market. According to the jobber they cannot afford to pay more than 6½ cents if they can pay that. The refiners here, many if not all of whom are now asking 6¾ cents and talking of a 7-cent price in the early future, feel that they must have these prices and that it is for the jobber to increase his selling prices or reduce his operating costs. These latter have been increasing steadily in the struggle for more business.

U. S. Motor in Demand

The bulk of the demand has been steadily for the U. S. Motor grade. The higher tests have been comparatively neglected and any better prices secured have been simply due to the feeling one might say that it would not do to sell or offer to sell the higher tests at the same price as the U. S. Motor grade. There have been some large sales reported of the 64-66 375 endpoint gasoline. The Sinclair Refining Co. has purchased 2,000,000 gallons of this grade and while both buyer and seller are reticent as to the price paid it is stated here that the exact figure was 6.55 cents which would be a remarkably low price for this grade even at this time. In small lots, single cars and the like the 60 62 400 endpoint was sold last week at 6¾ cents and the 64-66 375 at 7 cents with the high quotations 7 and 7¼ cents, respectively.

Kerosene

There has been a fair spot demand for kerosene and a larger movement on orders but the demand was not very active. From dealers in some parts of the territory came reports that tractors were being worked night and day to get in the crops but others stated that there had been too much rain and that the farmers were still waiting for a chance to complete their spring work. Most stations especially those of the large companies have been fully stocked with kerosene and these are probably supplied for the tractor season which under normal conditions would be near a close. There may be some belated rush business but the trade does not look forward to a large kerosene demand from now on. The going market all of last week for the 4143 water white kerosene was 4½ cents with a few asking 4⅝ cents. The 42-44 grade is in better demand and offerings are light but the market was still ranging at from 4¾ to 5 cents.

The actual movement of distillate is light, just occasional scattered cars with the price range of 3 to 3¼ cents. Some dealers have expressed themselves as favorable to taking in some supplies for storage and there have been numerous inquiries for contracts. Some contracts have been made but they are for the most part simple agreements of purchase and sale specifying the total amount required, monthly deliveries and the price to be the spot market date of shipment. Only one oil distributor would admit that he had been able to secure a contract having a price named for the various products. It is generally believed that the number of oil burners installed in the homes is materially larger than it was a year ago. Of the refinery distributors in this city the Standard Oil Co. has but a single grade, its Stanolind furnace oil. The Roxana and the Shaffer Oil & Refining Co. have a complete line. Most of the fuel oil distributors without refineries will offer a full line including a furnace oil or distillate and grades of gas oil and heavier fuel oils the latter for the industrial plants. Right now the dealers are most concerned in closing up their last season's business but they are working on their 1927-28 program of supplies, prices and distribution methods. The country distributor of fuel oil who handles but a few cars during the season as a rule, is stocking or will stock but a single oil for the use of his few customers. This will be a distillate with a low flash and cold test, clean and sweet color being of little importance in most cases. Such dealers cannot afford to build or to stock several grades of oil as it requires too much investment for the business that can be done in his locality.

Gasoline Strong

Gas oil continues strong here although the big buyer is absent. Most if not all of the large users like the gas companies have supplied their present needs and many have made contracts or laid in supplies that will carry them for some time. There has also been some buying by distributors for delivery now or later but this branch of the business is not very active right now. Several sellers of gas oil have stated that the demand for the light colored oil was much less than last season from the distributors of domestic burner oil even some that were very insistent on the point of color a year ago not even mentioning it in their specifications this year. The strength of the market seems to depend on the fact that refiners are holding their gas oil in many cases. Some refiners have said during the last few days that they were approaching a point where they would have to decide whether they should run their cracking plants or sell their accumulations of gas oil. The course of the gasoline market will be an important factor in making this decision. The present market for the lower flash, low cold test product is around 3 cents with the light oil commanding some premium over that price and some of the darker colored oil available at an eighth to a quarter less, although there is little available in this quality at 2¾ cents. Straight run gas oil suitable for gas companies and conforming to the U. G. I. specifications is quoted at 2¾ cents and occasionally a sale is made at 2⅝ cents but there was little at this price last week. Both local buyers and sellers are awaiting developments and the business is restricted at this time for that reason.

Fuel Oil Inactive

The fuel oil market is still inactive in the spot market. There is one inquiry out for 1,000,000 gallons a month over the year from one of the large local steel organizations with its plant in the Calumet region. Some time back this company stated that it was under contract to June 1 with one of the local refiners and it is believed that the contract will be renewed owing to the advantage of the short haul. Otherwise so far as made public the inquiries are all small and the orders that result are for a limited quantity. There are some who believe that the turn of the market is at hand owing to the fact that the price Mid-Continent crude has been held and seems likely to be kept at its present level for some time. The fact that the industry has turned its attention to finding some other method of curtailing production other than the cutting of the price for crude is in itself a strengthening factor.

There has been little change in the prices of fuel oil during the last week. Unless some one or more refiners determine to move some accumulations quickly and more or less regardless of price, the market seems likely to hold for some

time yet and it might even show a little more strength if greater industrial activity or a felling of security as to prices induced a little larger buying.

Lub Oils Active

Lubricating oils are fairly active in both what might be called a small and a large way. There is more business doing with the jobbers than earlier in the season but the larger business is waiting for a renewed demand which will come with larger consumption. Prices are still unsettled and there is the same story of great competition for even the smallest business.

USING SEISMOGRAPH IN NORTH LOUISIANA

SHREVEPORT, La., May 21.—North Louisiana oil operators are watching with interest the work of Harry Hansen, who with the aid of a seismograph is attempting to locate salt dome structures in Sabine Parish, Louisiana. Mr. Hansen is reported to be working in behalf of the Union Sulphur Co., operating principally in Townships 5 and 6, Ranges 12 and 13.

Considerable attention has been directed toward leasing of salt dome acreage in North Louisiana and the location of additional domes would stimulate new leasing activity in those districts where these structures are found.

Location of salt domes by the seismograph is extremely involved. Calculations based on reflections of sound waves must be checked twice in this country and once in Germany by higher mathematicians before the locations of salt domes are determined. Mr. Hansen sets up his seismograph and takes six shots daily at various locations, noting the effect on the instrument.

CARBON BLACK PROCESS CONFERENCE IN SESSION

SHREVEPORT, La., May 23.—Carbon black manufacturers of the Monroe gas field of northeastern Louisiana have been requested by the Louisiana department of conservation to meet in conference Tuesday, May 24, to discuss the new Barbour process, according to W. F. Chisholm, director of the minerals division of the department at Shreveport.

The process recently was approved by the department of conservation, and at the conference carbon black manufacturers will be asked for their opinions and suggestions as to adopting the process. It is claimed the new process, worked out in a series of experiments in the Monroe Field, will increase materially the yield of carbon black.

FUELS SESSION PAPERS AT A.S.M.E. MEETING

Three phases of mechanical engineering having bearing on the petroleum industry were discussed at the spring meeting of the American Society of Mechanical Engineers at White Sulphur Springs, W. Va., May 23 to 26. These related to the development of high-speed Diesel engines for aeronautical use by Carl Kemper of the Naval Advisory Committee on Aeronautics, the development of Diesel traction for railroads by William Arthur of the Brown Boveri Corp., and oil recovery from coal carbonization by George A. Orrock of the New York Edison Co. These papers were given at the oil and gas power session and the fuels session.

SHREVEPORT GEOLOGISTS

SHREVEPORT, La., May 23.—The Shreveport Geological Society, consisting of geologists of oil companies operating in North Louisiana and Arkansas and including a number of independent geologists, will make its fourth annual "outcrop" trip June 11 and 12, it has been announced. The geologists on their trip this year will study formations in East Texas, and their itinerary will include the tier of counties in Texas adjoining Louisiana and Arkansas.

REFINERY GASOLINE IS FIRMER IN THE ATLANTIC COAST MARKET

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, May 21.—The feature of the eastern gasoline market during the past week was a firming up of refinery gasoline. Leading refiners were quoting a minimum of 9 cents a gallon for U. S. Motor gasoline in tank cars, f.o.b. refinery, but one large factor raised the price to 9½ cents, against a recent low of 8¾ cents.

Opinion varies as to the significance of this situation. Some say it marks the turning point for the better in the gasoline market, but many shrewd observers regard it as marking a change in policy on the part of the Atlantic Coast refiners with regard to selling gasoline at refinery. The gasoline sold on this basis is 58-60 437 endpoint and is supposedly inferior to most of the gasoline sold under brand names. Some refiners claim that the gasoline they have sold at refineries has been competing too keenly with their own service station sales, and it is believed that they will raise the price of the former until this competition is largely eliminated.

Consumption of gasoline on the Atlantic Coast has been unfavorably affected by continued rainy and cold weather. In this section we seem to have had our May weather in March, and are having March weather in May. Of course, consumption is good as a whole, but the industry is looking for something more than expected to help deplete the top-heavy stocks of gasoline now on hand.

Receipts of California gasoline at Atlantic ports continue in fairly large volume, and this is not adding any degree of strength to the general situation. One cargo arrived in New York with about 3,500,000 gallons, and is supposed to have been gasoline blended and ready for marketing.

Kerosene Firm

The kerosene market is showing continued firmness, with good furnace oil sales and a generally fair demand from both domestic and export sources.

Many refiners look for continued improvement in this product and predict higher prices for both refinery and tank wagon kerosene before the end of the summer.

Gas and Fuel Oil

Prices for gas oil, Diesel oil and bunker fuel oil are unchanged. Demand is good and the outlook is favorable. A further contraction in the Mexican supply is anticipated, and with it smaller imports.

Lubricants Steady

Lubricating oil prices are holding, with industrial demand improved. The demand from the motor trade is not running quite up to expectations.

Paraffin Wax

The wax market is steady. Domestic demand is showing some improvement. However, smaller exports of refined wax have been preventing any improvement in prices.

Petrolatum

Petrolatum prices are unchanged. The market continues dull, with no signs of definite improvement for the immediate future, according to those in the trade.

The Export Situation

A continued subnormal movement of petroleum into export channels from New York certainly is no reflection of soundness of the export situation generally, and information from abroad lends color to the theory that no immediate improvement may be expected.

For instance, competition of Russian oil with American continues unabated, and the worst angle of this is that because of historical circumstances, this competition can continue despite recent reductions in prices abroad.

In Great Britain, Russia is credited with 50 per cent of the gasoline business outside of that handled by Standard, Dutch-Shell and Anglo-Persian, combined. Furthermore, the Russian interests marketed some American oil there, as well as their own.

In 1926, the American companies imported less gasoline into Great Britain than in 1925. This was due in part to increased refining facilities, however.

Gasoline prices in Great Britain have fallen 10 cents a gallon since November, 1926. The present price is around 29 cents, retail, against a peak of 39 cents. Price cutting has also been prevalent for some months in other European countries, in some of which the use of substitutes has grown considerably.

About the only departments of the New York oil export trade now making a good showing are petroleum asphalt and coke. Lubricants and greases come next. Wax, gasoline and kerosene shipments are far below expectations, while there has been no record of any fuel or gas oil export consignment of importance in many weeks.

There is a notable tendency to ship crude petroleum in larger quantities. Several shipments to Spain have been made recently from this port, but they have been small.

Exports of crude wax also have shown a tendency to hold up better than refined wax.

Havre Oil Depot

Work on the big oil depot at Havre, France, is almost completed. This work is being done for the Compagnie Industrielle Maritime. The terminal will be the largest in France and will be open to all companies, it is stated.

The depot offers facilities for the loading of tank barges for the transportation of petroleum products to the interior of France, including Paris, as well as for loading and unloading ocean-going oil tankers.

Petroleum Imports

The following table shows principal exports of petroleum and petroleum products from New York during the last three weeks (all figures in gallons unless otherwise noted:)

	Week ended— May 18	May 11	May 4
Gasoline—			
Bulk	3,357,312	.....	.....
Cases	388,000	1,156,400	835,100
Kerosene—			
Bulk	1,857,240	.....	.....
Cases	1,432,680	2,260,150	1,736,990
Lubricating oil—			
Bulk	1,491,327	.....	1,609,692
Barrels	1,446,450	534,450	2,459,250
Cases	171,100	70,370	655,560
Lubricating grease—			
Barrels (lbs.)	475,500	352,350	697,950
Paraffin wax—			
Bags (lbs.)	.....	672,760	1,228,260
Barrels (lbs.)	681,625	888,725	295,450
Petroleum asphalt—			
Barrels (tons)	631	3,815	317
Petroleum coke—			
Bags (tons)	.....	1,562	.....

The foregoing figures include shipments of 500 bbls., 1,000 cases or more.

Tanker Market Dull

An unprecedented period of inertia seems to have come over the oil tanker chartering market. Fixtures are few and far between. The latest was a tanker for the Mexican-Atlantic Seaboard trade at 45 cents a barrel. This charge indicates that rates are holding up, and argues against any plethora of ships.

Oil Receipts

Estimated receipts of crude and refined oil by water at Atlantic Coast ports for the week ended May 18 were 3,651,000 bbls., against 4,170,000 bbls. the week ended May 11.

Receipts from the Gulf Coast totaled 2,192,000 bbls., a daily average of 313,000 bbls., while receipts from the Pacific Coast were 674,000 bbls., or 96,000 bbls. daily.

Imports continue on a heavy scale. The total for the week ended May 18 was 785,000 bbls., a daily average of 112,000 bbls. Of the daily average imports, Mexico contributed 61,000 bbls., and South America 51,000 bbls.

Petroleum Receipts

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports for the last three weeks; also monthly record for the past 12 months (figures in barrels):

	Week ended— May 18	May 11	May 4
Gulf Coast	313,000	392,000	313,000
Pacific Coast	96,000	50,000	70,000
Mexico	61,000	93,000	113,000
South America	51,000	60,000	69,000
Total	521,000	595,000	565,000

Daily Averages by Months

1927—	Gulf	Pacific	Mex.	S. Am.	Total
April	388,000	93,000	69,000	61,000	611,000
Mar.	345,000	103,000	36,000	81,000	565,000
Feb.	379,000	89,000	40,000	48,000	556,000
Jan.	362,000	73,000	49,000	61,000	545,000
1926—					
Dec.	363,000	57,000	49,000	61,000	530,000
Nov.	335,000	62,000	56,000	40,000	493,000
Oct.	270,000	71,000	61,000	43,000	445,000
Sept.	299,000	98,000	63,000	58,000	518,000
Aug.	320,000	61,000	71,000	46,000	498,000
July	360,000	66,000	115,000	36,000	577,000
June	396,000	104,000	117,000	18,000	635,000
May	318,000	66,000	114,000	25,000	523,000

The foregoing figures are based on the carrying capacity of incoming oil-laden tankers.

OKLAHOMA FIELDS

(Continued from Page 165)

Section 10-8-6, Bowlegs Pool, made 3,525 bbls. from the Wilcox 3,962-4,007 feet.

Stephens County

Magnolia Petroleum Co. made location for No. 1 Creel, NW cor. NE SE, Section 31-1-5w. Fort Ring Oil Co. is rigging up rotary tools at No. 1 Nelson, SE cor. NE, Section 28-1s-8w.

Merrick & Gault's No. 1-B Dixon, SE cor. NE, Section 13-1s-4w, is swabbing 60 bbls. from a series of sands 2,546-3,242 feet. Skelly Oil Co.'s No. 2 Krebs, SE cor., Section 13-1s-4w, is making 40,000,000 feet of gas from sand 2,808-23 feet. Wirt Franklin's No. 1-A Franklin, NE cor., Section 24-1s-4w, was completed for 14,000,000 feet of gas in sand 1,891-1,901 feet. Medlin and others' No. 1-A Taliaferro, SE cor. NE SW, Section 27-1s-8w, is dry and abandoned at 1,714 feet. Brown & McAlester's No. 1 Taliaferro, NE cor. SE, Section 28-1s-8w, an old well deepened, is flowing 31 bbls. from sand 2,112-19 feet. Magnolia Petroleum Co.'s No. 1 G. Martin, SE cor. SW NE, Section 13-1s-4w, was completed for 100 bbls. in a series of sands from 2,435 feet to 3,300 feet. No. 7 Webb, NW cor. NE SE, Section 3-2s-5w, is pumping 10 bbls. from sand 1,925-37 feet. Fidelity Oil & Gas Co.'s No. 1 Sutherland, NE cor. SE, Section 3-3s-5w, has been abandoned at 2,425 feet.

Tulsa County

Superior Oil Co.'s No. 2 Gaskins, C NE NE, Section 16-19-10, is drilling at 1,000 feet. L. C. Hivick and others' No. 3 Rentie, NW cor. SW SW, Section 16-18-13, has been completed for 15 bbls. in the Perryman sand 1,160-1,237 feet after a shot of 60 quarts.

Warner County

M. E. Johnson's No. 2 Bruner, SW cor. NE SW, Section 36-17-16, was completed as a dry hole at 1,608 feet. A. A. Williams' No. 2 Hawkins, NE cor. NW, Section 32-16-18, is dry and abandoned at 805 feet.

SKELLY WEST TEXAS DISTRICT

AMARILLO, Tex., May 21.—Skelly Oil Co. has created a new district to be known as the West Texas district but embracing Panhandle and New Mexico as well as West Texas. Frank P. Graham, who has been district superintendent for the Skelly company in Kansas, has been made superintendent of the West Texas district with headquarters in Amarillo and with assistants in San Angelo, and Borger, Tex., and Artesia, N. Mex. W. I. Geary, of the production department in Cushing, Okla., succeeds Mr. Graham. Skelly company is developing its 13,000-acre lease on the Schafer Ranch Pool in Gray County.

GEOLOGICAL OFFICE CHANGE

SHREVEPORT, La., May 23.—Effective June 1, Simms Oil Co. of Dallas, Tex., will discontinue the geological department of the Shreveport office and will handle North Louisiana and Arkansas work from the Dallas headquarters. The scout and land departments at Shreveport are unaffected by the change.

Unit Gasoline Plant Construction

Success of the Portable Plant in Meeting Varied Problems in Manufacture of Natural Gasoline. Simplifies Difficulties

By S. S. Smith*
Superintendent Gasoline Production, Roxana Petroleum Corp., Tulsa, Okla.

In choosing this subject, of course, I take advantage of every speaker's privilege to interpret his subject as he sees fit, so that the title of this paper should really be "The Unit Idea as Applied to the Gasoline Plant."

My first experience with absorption gasoline plants concerned the construction and operation of what I believe was the second of this type ever built in the State of Oklahoma. The construction of this plant, which at the top of its heyday never made over 2,500 gallons of gasoline daily, involved the use of as much concrete as is used in three modern plants of like size and required six months to complete. I recall that shortly afterwards I had some connection with an unsuccessful compression plant built near Sapulpa, which also had some $40,000 worth of concrete as one of the major items in its first cost, and which to the best of my knowledge never made gasoline enough to pay its operating expenses through any one month and, when dismantled, cost the builders over one-half of its first cost as a direct loss. Ever since that time it has seemed to me there was something radically wrong with a commercial industry which, like the proverbial physician, had to bury all of its mistakes.

About three years ago I had the opportunity of meeting one of the more progressive manufacturers of gasoline plant equipment and we discussed the possibility which might exist for the manufacturer of gasoline plant apparatus and the gasoline producers in designing and building plants which could be set up and operated with practically no permanent foundations and with as little unsalvageable equipment as possible. I am convinced that, as a direct outcome of this conversation the first small portable units were put upon the market. As was possibly particularly fitting, my company purchased and installed the first two of these plants put in the Mid-Continent Field. Their operation, while it left much to be desired, still convinced us that the inherent idea was correct and that there were tremendous possibilities in the use of this equipment as a standard apparatus around which should be built the auxiliaries necessary to the complete program of gasoline manufacture.

How Unit Idea Grew

At that time none of us had a very clear picture of what we were trying to do, and as far as I am concerned the idea did not crystalize until almost a year later. It might be well to take up more or less in detail how this unit idea grew and what its effect and its relationship are toward other new features in the general scheme of oil and gasoline production.

Our first units were put in strictly as portable plants with no particular thought as to their efficiency and with the real incentive of obtaining some gasoline production from a very rich piece of producing territory while our permanent plant was in the course of construction. They were built in a hurry, had no gas compression machinery as we ordinarily know gas compression machinery, had practically no concrete foundations, no provisions for later additions or subtractions, and, of course, no particular efficiency of operation. We brought our gas in through temporary lines, mostly laid on top of the ground, handled it through blowers which were driven by steam engines, generated our steam in ordinary oil field boilers which were set about as the ordinary drilling contractor sets a boiler, and in general, the plants could hardly be considered as commercially successful. However, with this first installation we average about 5,000 gallons a day for a period of approximately three months, at the end of which time our permanent plant was completed and began operations. These plants were then dismantled and moved to another flush gas location where they repeated practically the same experience.

Portable Plant Experience

At about this time it fell to my lot to take charge of the operations of my company's gasoline department and I immediately found it necessary to build a plant on heavy flush production where, in order to make it successful, it was necessary to contract outside gas in a field where there was severe competition from a plant already installed. With our other experience fresh in our minds, we decided that we could set up a portable plant and gas compressors in a small installation much more quickly than we could fabricate and build an ordinary permanent installation.

This plant as built was more or less of a makeshift and had no auxiliary room equipment as we ordinarily know it, but made gasoline at the rate of about 3,500 gallons a day in some 35 days after we started construction. Almost immediately we found it necessary to double its capacity, and it was quite easy to do this by simply adding a second distillation unit and two more compressors. In this instance we used 80 horsepower direct driven gas compressors and the water circulation which handled the gas coolers was in series with the engine cooling water. For cooling and reservoir capacity we used a 1,600-bbl. tank and a small louvre tower with screen wire decks.

This installation only operated about four months and when the field unexpectedly went to water we were able to take out the plant, charge off against our operation the cost of setting up, dismantling and loading 33⅓ per cent depreciation on all equipment together with our normal home office and overhead expense and still realize a small profit. Had we been unwise enough to install permanent apparatus the financial outcome would have been entirely different for my company, and, I fear, quite disastrous to me personally.

Normal Hazards

This situation with its untimely end brought us to the serious realization of the fact that some of our deeper, short-lived pools might be made to support plants. If we were able to handle the flush production at a profit, then we could actually afford to build on a great many situations where with our more permanent, less salvagable equipment we were economically forced to determine accurately the extent and life of the field before starting construction. In our own case on this kind of field I know we were not willing to make the investment in large permanent plants which was necessary to compete with some of the major gasoline producers since we felt and still feel that the normal hazards of the business are sufficient to make it interesting without unnecessary and excessive competition plus unknown field extent. This attitude is proved by our present very serious depression to have been the correct one. Buyers of casinghead gas too frequently forget the hazard of the business in their desire to build up gallonage and more often than not offer competitive conditions which may give them a fair return on their investment if everything goes right but more frequently must result in losses. Today's situation brings us all back to earth.

Discarded Precedent

We were then faced with the choice between two courses of procedure. We must drop out of competition with many other companies of equal aggressiveness, or we must find some course of procedure which would allow us to compete with these companies and which would still appeal to our management, who must needs furnish the money. It must be obvious from the very nature of our business that we cannot manufacture gasoline in a plant which is hauled to our source of supply like a compression test car. It is equally apparent that all of our older plants contain much investment which does not contribute directly to their profitability. However, some compromise between these two extremes can be reached. This problem, if I have correctly stated it, seemed to leave only one solution—that we discard precedent and look to each piece of equipment separately to see what could be done to decrease the intangible or lost investment which, considered from the common sense point of view, we wrote off as lost operation expense immediately upon completion and start of operations of any plant.

With this in mind we discussed again with the manufacturer of portable equipment the feasibility of building along the same type of construction as our 2,500-gallon units, plants which were capable of commercial operation at the rate of about 10,000 gallons a day. This resulted in the well-known 7,500-gallon unit which has been brought out by at least three of the more prominent manufacturers of gasoline equipment. The first thing which came to our attention after the distillation unit was the auxiliary room where we produce electricity, compressed air and pump mineral seal oil and water. We have pumped fluids in, I believe, every conceivable manner. We have electrically driven centrifugal pumps, belt-driven centrifugal pumps, geared pumps, and, in fact, everything but windmills. Some of our oldest plants contain steam pumping equipment and an accurate analysis of their cost records indicated to me that although from the known standpoint of fuel economy and strict mechanical efficiency, the steam pump was far from ideal, yet these same cost records through years of operations proved that the steam was at least as cheap, if not cheaper, than any other means we had. This led me to believe that probably all of our auxiliary equipment could be steam driven and the use of steam-driven auxiliary apparatus certainly lent itself easily to the unit idea in plant construction.

Redesigned Engine Room

Following along this line of reasoning, we redesigned our engine room and boiler house layouts in connection with the installation of 7,500-gallon units, so that each engine and compressor became a complete unit including the gas cooler necessary to the compressor and the water pump necessary for water circulation over both the gas cooler and the engine compressor. From our original auxiliary room equipment this left only starting air and electrical generation to be taken care of. Steam turbine driven generators and direct gas engine driven compressors eliminated these factors. Boilers which had previously, in all of our plants, been ordinary locomotive type were changed to semi-portable water tube units which had greater capacity per unit and which, from the operation standpoint, relieved us of one of the largest single sources of trouble in operating on bad water.

Since our water cooling towers were already built and designed to handle the circulation from each of the distillation units, the only thing left to work out was a reasonably efficient highly salvagable system of storage and cooling of water for the engines. While we have not entirely standardized this we have so far used 1,600-bbl. wood or 2,000-bbl. iron tanks on 10-foot steel supports with seven-deck portable cooling towers mounted on top of each tank. This system allowed gravity circulation over gas coolers and engines to individual hot wells for each unit from which the unit pump put the water back over the tower and tank. Our final workout of the unit idea is such that around a central hub of the plant is laid the first of each unit of the distillation, boiler, engine, and absorber capacities so that each set of units may be added to unit by unit until desired size is obtained. In practice it has worked out beautifully both from construction and operation standpoints.

Manufacturing Problem

I have tried to describe in brief fashion how we have worked out the unit idea in the plant so that it is possible to either expand or contract this plant with varying field conditions up to almost any desired size. Our business is commonly thought of as a producing business. To my mind all of us in the gasoline industry should more properly consider ourselves as manufacturers, since our work is basically that of transporting and converting a raw product into another product which is commercially salable and entirely different from our original one. Therefore, our business is as essentially a manufacturing business as is the manufacture of Ford automobiles from the raw material as produced in the mine, forest, and the ranch. In any manufacturing business, of course, the effort is to take advantage of the raw market to the end that manufacturing operations shall be profitable. Since our raw material is such that it cannot be transported over long distances, let us think a moment about what is happening to the producing industry which furnishes this raw material and what relation this bears to our business as strictly one of manufacture.

Probably there is no better example of what I have in mind than the present excitement at Seminole. Here we have all of the conditions which are the reason for the unit idea in gasoline plant construction. We have heavy flush production, giving us an exceedingly high load factor through the early life of the plant; we have the very general use of the gas lift which maintains high peak values of flush production; and we expect to have a very rapid decline which will leave us with possibly 20 to 40 per cent of our present potential gasoline production in two years. In a field like this it seems to me that it must be obvious that we should be prepared to build gasoline plants capable of handling large percentages of this heavy flush, capable also of making a profit on investment during the flush period only; and, in addition, capable of contraction to the expected 20 to 40 per cent of present potential production when necessity for part of the installed equipment no longer exists. For this type of field the unit plant offers efficiency, cheapness and high salvage values. Let us consider these three factors:

Values of Efficiency

In the final analysis, values of efficiency must be comparative, since we cannot state that the production of a gallon of gasoline should require only a certain number of B.t.u.s. In general, we may judge operating efficiency from an observation of the following items:

Content of the residue gas.

Relative production, i.e., the plant yield in gallons per 1,000 compared to

*Before Association of National Gasoline Manufacturers, May 23, 1926.

the gasoline content as indicated by standard testing methods.

Overload conditions or actual production compared with the plant rating.

The relation between the heat saved, by use of exchangers, etc., and the total amount of heat that is added to the oil in its circuit of the plant. This is an important factor in fuel economy.

In our case gas tests are made with the standard charcoal absorption apparatus, the distillation being made at atmospheric pressure through a 32-degree Fahrenheit condenser.

We have not observed any appreciable decrease in the operating efficiency on 7,500-gallon units for loads as high as 11,000 gallons, or approximately 147 per cent of rated capacity. We have two plants equipped with bubble cap absorbers operating at this rating and stripping the residue to less than 0.05 gallon per 1,000.

Heat balances calculated from operating data show from 52 to 58 per cent of the heat used in distilling the gasoline from the oil is returned to the system through the exchangers. Steam consumption varies from 7 to 10 pounds per gallon of gasoline consumed by the distillation units, not including the steam consumed by the pumps. The water circulation on condensers and oil coolers is usually between 40 and 45 gallons per gallon of gasoline produced.

The figures given are representative of daily operation of the units on a permanent plant basis, for purposes of comparison, and are not submitted as records or for comparison with record achievements in other localities. We are well satisfied with the results we have obtained with the semiportable unit and we believe that from an operating standpoint they compare more favorably with plants of the permanent type. This leaves two other factors—those of cost and salvability:

Comparative Cost

Cost is, of course, a variable factor in different organizations. In our case we can only make comparisons as between our own semiportable operations and our permanent operations where the advantage is somewhat in favor of the semiportable unit idea. As you go to larger plants this advantage becomes less in favor of the semiportable unit and in considering a plant which may reasonably be expected to produce say 30,000 gallons a day in a field where development will be slow and the decline in production also slow, there is very little to be said in favor of either plant except that there "ain't any such animal," and very few of us in actual fact are called upon to build plants where the ratio of settled to flush production is high and where we can prophesy with any degree of real accuracy that we will have a certain gallonage over a three-year period.

No Salvage Loss

To those of us who have been compelled to dismantle and move the older type of permanent plant the loss in salvage is well known. The factory assembled plant on the other hand moves with practically no salvage loss other than the labor invoked in the actual set up and dismantling of the plant. The only concrete we have found necessary is a concrete setting for our elevated water tanks and for the engines. By using engines in units of large horse power we have decreased the number of foundations to the minimum. There are, of course, some other small items of concrete construction such as absorber settings but they are all of such type that complicated form work is unnecessary. Since all of our water cooling equipment is portable in the sense that it can be completely dismantled and moved and since this applies also to the boilers, distillation units, tankage and all of the buildings including the employes dwellings, these plants are in reality 100 per cent salvable.

Standardization and Speed

There is another thought in connection with the unit plant which I have not touched upon. Standardization has attracted all of us in the oil industry during the last two years particularly. I know of no system of plant construction which admits of as thorough standardization as this so-called unit idea built around the factory assembled plant. I know that in our case we find it practical to carry in warehouse stock enough of our standardized material to construct a complete gasoline plant.

This fact alone has permitted us greater speed in construction, with consequent high return from flush production. It has permitted us to have a highly trained force in our construction department familiar with all of our standardized layouts and able, therefore, to build complete plants which make production efficiently on their first day's operation. As a corollary, it has aided our operating division by permitting us to move operating forces from one plant to another without consequent loss of efficiency in production which usually follows while familiarizing new crews with operating cycles to which they were not accustomed; it has reduced our overhead in design work, and has particularly helped the liaison between our warehouse department and our construction and operation departments through entire standardization and consequent ability to handle material speedily.

Disproved Critics

Here I would like to digress long enough to state my conviction that a great deal of the odium which has attached to the portable plant has been a misconception of its use, of its actual working, and of its efficiency. I well remember that at a recent meeting of the Association of Natural Gasoline Manufacturers my company along with others came in for a large share of criticism and ridicule in its use of the portable plant. It was then stated and probably was the honest conviction of a number of our members, that the so-called portable plant was going to make it possible for the small independent producer to compete with what we in the larger companies are prone to consider our divine right to dominate the natural gasoline industry. It was thought then by many members of this association that the use of the portable plant would point the way for each producer to build a plant to handle the production from his own lease and that it foretold the inevitable decline and fall of the gasoline industry as we then knew it, which depended for its profits upon large scale operations and which coupled into and complemented our refinery and pipe line operations. I believe the evidence of the last year indicates without question that this is not the case and that the natural gasoline industry must and always will remain in the hands of the organizations best equipped to handle it by virtue of their trained staffs of construction and operation men and their pipe line, refining, and marketing facilities.

The portable plant or unit idea in gasoline plant construction brings no millennium (unfortunately). We are still faced with the ever recurring problems which come up with all gasoline departments but it has greatly simplified two of the most troublesome things we have to consider; one, the layout, design and construction of plants with their delays and hitches; the other—elimination of much of the risk in attacking new fields with plants because of the very high salvage value of all equipment. I know in my own case these two things under the old scheme of plant design were my greatest mental hazards. In eliminating them I have vastly simplified and made more pleasant my own work, besides, I believe, making profits for my company which otherwise would have been lost.

ROCKY MOUNTAIN AREA

(Continued from Page 63)

deeper than is thought. The Elk Hills structure is a large one and in case production is found it would mean a big field.

Boundary Butte

The Midwest Refining Co. is also preparing to start the Boundary Butte well drilled to about 1,800 feet some three years ago. This well is in the southeast corner of Utah and found production in the Shinarump sand there. As it was on Indian land the Government caused the well to be shut down and only recently through executive action has the Midwest been able to obtain a lease on that area. It is expected the well will be drilled as a test of all sands. The previous work on this well was done by the Southwestern Oil Co, a subsidiary of the Midwest Refining Co.

The Illinois Pipe Line Co. has been granted a permit to lay a pipe line from the Oregon Basin Field in Park County to a point about 1½ miles east of Cody on the Burlington Railroad. The railroad will place a switch there and the Illinois Pipe Line Co. will build a loading rack to load 15 cars at once.

This line will be 15.5 miles in length, be laid with 8-inch screw pipe and is expected to cost $225,000. Work is to start at once on the ditching and the line is to carry the oil from the new strike of the Ohio Oil Co. to a rail point for delivery to market. One 37,500-bbl. tank will be built in the field and two 8,000-bbl. tanks at the loading racks. This tankage will be built by the Ohio Oil Co. About 15 wells are scheduled for the Oregon Basin this season due to the Ohio Oil Co.'s strike there last month. Some of these wells are now drilling.

About two years ago, several land offices in Wyoming were consolidated at Cheyenne on the basis of an economical program inaugurated by the Government. The Government has now ordered the abandonment of the Cheyenne land office and will direct all the affairs in this respect from Denver. The Denver land office will hereafter control all government land in Kansas, Oklahoma, Colorado, Nebraska and Wyoming. Ralph S. Kelley, division inspector will be in charge of the Denver office and Robert Dyer, formerly in charge of the Cheyenne office, will now be in charge of the Wyoming department at Denver.

RUNS FROM THE FIELDS

Salt Creek	46,790
Teapot	1,220
Big Muddy	2,820
Grass Creek	2,590
Elk Basin	820
Greybull	15
Rock River	2,620
Rex Lake	150
Lance Creek	550
LaBarge	120
Poison Spider	320
Osage	330
Hamilton Dome	1,200
Mule Creek	1,300
Lander	80
Byron	50
Lost Soldier	3,300
Ferris	70
Simpson Ridge	60
Cat Creek	2,370
Lake Basin	190
Sunburst	11,200
Iles Dome	740
Walden	260
Florence	660
Moffat	2,090
Fort Collins	3,465
Tow Creek	1,080
Boulder	25
Rangeley	100
Hogback	660
Rattlesnake	500
Table Mesa	310
Artesia	1,700
Total	89,755

FIELD RUNS FOR MONTH OF APRIL

Wyoming

Salt Creek	1,311,720
Teapot	25,390
Big Muddy	84,590
Grass Creek	82,560
Elk Basin	27,400
Greybull	645
Rock River	80,940
Rex Lake	5,310
Lance Creek	22,260
LaBarge	5,420
Poison Spider	4,920
Osage	10,380
Hamilton Dome	35,040
Lander	3,520
Byron	1,660
Lost Soldier	111,030
Simpson Ridge	1,320
Ferris	1,700
Total	1,815,805

Montana

Cat Creek	71,030
Sunburst	370,500
Lake Basin	5,700
Total	447,230

Colorado

Florence	21,000
Moffat	67,070
Fort Collins	102,070
Boulder	750
Rangeley	3,000
Tow Creek	24,780
Walden	5,975
Total	224,645

New Mexico

Hogback	22,810
Rattlesnake	39,935
Artesia	57,900
Table Mesa	6,945
Miscellaneous	1,500
Grand total	2,615,770

TEXAS PANHANDLE

(Continued from Page 48)

Minchoma Oil Co. & Kistler	3	590
McMan Oil & Gas Co.	25	2,715
McIlroy & Herring	6	655
S. D. McIlroy	4	320
S. D. & W. W. McIlroy	8	705
McIlroy Bros. et al.	3	140
McIlroy Oil Co.	5	5,300
J. H. Middleton	4	150
Mudge Oil Co.	1	5
Fain-McGaha Oil Co.	2	210
Newby Oil Co.	2	50
New Domain Oil Co.	3	80
Pantex Oil Co. (Westex)	9	1,055
Phillips & Heywood	3	565
Panhandle Oil Co.	1	20
Paramount Oil Co.	1	700
J. R. Phillips et al	5	2,010
Phillips Pet. Co.	222	26,285
Prairie O. & G. & Phillips Pet. Co.	78	8,110
Pla'ns Drilling Co.	1	10
Pure Oil Co.	3	425
Relief Oil Co.	4	410
Henry Riley	1	50
Riley & Holmes	2	160
Rock Island Oil Co.	1	5
Roxana Pet. Corp.	8	730
Ryan Pet. Corp.	4	350
Skelly Oil Co.	27	1,945
Skiatex Oil Co.	8	1,130
J. L. Smith	2	205
Smith & Barnum	2	40
Southwestern Oil & Dev. Co.	6	700
Spring Creek Oil Co.	5	430
Sullivan et al.	1	15
Summit Oil Co.	4	390
Sunny Jim Oil Co.	5	200
Sunburst Oil Co.	4	460
Sunrize Oil Co.	1	0
Sweeney et al.	1	50
J. A. Swindler & Son	1	15
The Texas Co.	1	50
Tex-O Oil Co.	1	10
Travelers Oil Co.	4	550
Triangle Oil Co.	5	680
J. D. Ward et al.	3	140
White Eagle Oil & Ref. Co.	27	1,900
Total Hutchinson County	927	104,500
Average per well		112

CARSON COUNTY

Amarillo Oil Co.	1	0
American Ref. Co.	9	600
Champlin Ref. Co.	6	315
Delmar Oil Co.	1	40
Empire Gas & Fuel Co.	5	575
Gates Oil Corp.	1	5
Gulf Prod. Co.	20	830
Hughes Dev. Co.	1	110
Magnolia Pet. Co.	1	200
Marland Oil Co.	21	1,510
Marston Oil Co.	1	95
McMan Oil & Gas Co.	10	1,720
Nunn & McAuley	6	850
Park et al.	3	250
Prairie Oil & Gas Co.	8	2,390
Republic Prod. Co.	2	130
Roxana Pet. Corp.	12	1,370
W. W. Silk et al.	3	100
Skelly Oil Co.	7	1,830
Southwest Oil & Dev. Co	1	10
Sunny Jim Oil Co.	2	10
The Texas Co.	14	460
Total Carson County	135	13,450
Average per well		99

GRAY COUNTY

Blackwell & McGee	1	675
Canyon Oil Co.	1	10
Empire Gas & Fuel Co.	4	425
Gulf Prod. Co.	15	1,450
Humble Oil & Ref. Co.	13	635
Magnolia Pet. Co.	19	490
McMan Oil & Gas Co.	10	485
Marland Oil Co.	1	35
Nabob Oil Co.	1	75
Os'orne & Daniels	1	10
Phillips Pet. Co.	7	550
Prairie O. & G. & Atlantic & Shamrock	15	1,400
Pure Oil Co.	7	340
Roxana Pet. Corp.	1	40
Sun Oil Co.	3	85
The Texas Co.	6	315
Travis et al.	1	40
Wilcox-Pampa Oil Co.	24	3,255
Young et al.	1	15
Total Gray County	131	10,330
Average per well		78

MOORE COUNTY

Cadman et al.	1	0

POTTER COUNTY

Amarillo Oil Co.	1	0

WHEELER COUNTY

Continental Oil Co.	3	325
Gibson Oil Corp.	7	430
Laycock et al	1	0
Magnolia Pet. Co.	5	290
Marland Oil Co.	1	320
Mid-Continent Pet. Corp.	1	10
Fain & McGaha	1	35
Mid-Kansas Oil & Gas Co.	4	500
Midwest Exploration Co.	2	5
Tidal Oil Co.	1	570
World Oil Co.	2	40
The Texas Co.	3	385
Total Wheeler County	31	2,960
Average per well		95
Grand Total Panhandle	226	131,240
Average per well		107

TAKES OVER MORE DUTIES

A. Hurlburt, vice president of the Equitable Gas Co. has taken over the duties performed by George E. Whitwell and is now vice president and general manager of the company. Mr. Whitwell has been made general sales manager of the affiliated companies.

REFINING AND MARKETING

Modern Grease Gun Said to Be Better Than Older Types

By Charles M. Fuller*
County Sealer, Los Angeles, Calif.

In dealing with the subject of grease "guns" and dispensers, I am going to speak briefly.

1. On conditions as they were found in the field.

2. The reason why many of the early types, which were found in use, were faulty, causing complaints to be made to the Department of Weights and Measures.

3. The changes that are being made in these early types to insure greater accuracy and a correct indication of delivery.

4. New devices which are now being developed.

You must take into consideration the fact that our experience is limited to these devices which are in use in California. Also, that this is a new subject that has never been taken up at the conference; that we have therefore been unable to receive any outside aid or assistance from the experience of others; and that while we feel that we have made a good beginning there is still a tremendous amount of work and experimentation to be accomplished.

Two early types of grease dispensers were found to be generally in use. There was the plunger type, in which the plunger was actuated either by a rotary crank or by a plunger rod, which was pulled up and forced down. The main trouble encountered with these devices was due to the ease with which they could be operated at a fast rate of speed, not allowing sufficient time for the chamber to fill completely and causing a short delivery of grease.

Steps have been taken with these types to insure a proper filling of the chamber by providing all of them with rotary cranks, which makes it possible to slow down the speed of operation through gears, and by placing a smaller outlet nozzle at the end of the hose.

The majority of these devices were supposed to deliver a certain definite amount of grease per stroke. While some of them were equipped with an adjustment for controlling the length of the stroke, thereby increasing or decreasing the amount of delivery, none of them were provided with an indicator or means of showing the amount delivered.

There was also an air-operated rotor type of grease dispenser which had no means of adjustment to take care of various weight greases. Various complaints were made to our department; in some cases customers were charged for an amount of grease greater than the crankcase or differential could possibly hold; in other instances, gears of automobiles had been ruined through being dry within a very short time after the case was supposed to have been filled. These complaints were adjusted and in every instance the trouble was found to be due to a faulty delivery from the grease dispenser.

Actual tests made by our department showed a variation on a delivery supposed to be a pound, ranging from one-half pound short on a fast operation to one-half ounce over on a very slow operation. In the latter test, a few minutes interval elapsed between the raising of the plunger and the lowering of it to make delivery, a condition that would probably not occur in actual operation to a customer.

In addition to making arrangements for providing a crank and gear mechanism

(Continued on Page 182)

*Paper read at Twentieth National Conference on Weights and Measures, Bureau of Standards, May 26.

NEW ASPHALT BARGE OF UNION OIL CO. OF CALIFORNIA

LOS ANGELES, Calif., May 19.—When the asphalt barge "Maltha," built for the Union Oil Co. by the Hanlon Drydock & Shipbuilding Co. of Oakland, left the ways at the shipbuilding plant recently, a new departure in the distribution and marketing of asphalt was inaugurated.

The new barge is said to be the first one of its type ever built on the Pacific Coast. Heretofore, tank cars have been utilized for the transportation of asphalt from the refineries to the customer, and while of necessity this method must continue where distribution is to inland points, asphalt deliveries by barge, where conditions permit, are likely to supercede that by tank car.

The "Maltha" has a carrying capacity of 3,200 bbls. of asphalt, or approximately 15 times the capacity of a tank car. It will deliver the asphalt at a temperature of about 200 degrees Fahrenheit, and has been equipped with steam coils for heating purposes.

The new barge has an over-all length of 100 feet and is 40 feet wide. Its draft is 9 feet. The barge is so designed that the asphalt, stored in eight circular tanks, will have no contact with the outer shell of the hull. By this arrangement, the asphalt will not be affected by condensation effects through sea water contact with the hull.

While primarily built to handle asphalt, the new barge can, if conditions demand, be utilized for the handling of fuel oil, according to Union Oil officials.

MICHIGAN OIL MEN'S OUTING

CHICAGO, May 21.—The summer convention and outing of the Michigan Independent Oil Men's Association will be held at Mackinac Island on July 14 and 15. The convention of last year was held there and was very successful in attendance.

A NEW DISTRIBUTOR

INDIANAPOLIS, Ind., May 21.—The Hoosier Petroleum Co., Inc., has been organized in this city and has leased a quarter of a city block at the corner of Maryland and Missouri Streets, and will conduct a large drive-in station, with Roy A. Scheiding as vice president and general manager.

MOVES REFINERY OFFICES

CHICAGO, May 21.—The Osborne Refining Co., of Hammond, Ind., announces the removal of its sales office from 35 East Wacker Drive to the refinery. J. C. Crews, sales manager, is in charge of the plant which was formerly known as the Martin Oil & Refining Co.

WATKINS SUCCEEDS GERAGHTY

Effective June 1, J. C. Watkins will become sales manager of the Root Refineries, Inc., with headquarters in Shreveport, La. Mr. Watkins succeeds J. L. Geraghty who resigned to organize the Southern Petroleum Co. a marketing organization with headquarters in Shreveport.

MARKET PEERLESS SURPLUS

CHICAGO, May 21.—The Atlas Petroleum Co., of this city, has contracted with the Peerless Oil & Refining Co. of Chanute, Kans., to market all of its products for its own distribution.

TRACTION CO. TO SELL GASOLINE

CHICAGO, May 21.—The Illinois Power & Light Co., controlling traction lines extending from Peoria to St. Louis and from Joliet to Princeton, has incorporated the Illinois Gasoline Supply Co., with a capital stock of $50,000. This subsidiary organization will handle a complete line of petroleum products through filling stations. The first station will be operated at Urbana, Ill. No trucks will be operated but storage will be sufficient to take in tank car lots. If this station proves successful the management plans to establish other stations along the line in towns where it owns favorable sites. The offices of the company are at 231 South LaSalle Street, this city.

FURNACE OIL CONTRACTS

CHICAGO, May 21.—Several local distributors of furnace and fuel oils are seeking contracts for the coming season. The larger organizations have not yet announced their new prices and are disposed to permit the business to run along on the present price list, which may be modified later if desired. But several of the fuel oil specialists are now making contracts with regular customers and an average price list is as follows:

	Cents
18-22 gravity fuel oil	6
24-26 gravity fuel oil	6¼
26-30 gravity fuel oil	7
34-36 dark gas oil	7¼
34-36 straw gas oil	7½
38-40 furnace oil	8

These prices apply to deliveries of 400 gallons or over and are materially lower than the prices at which contracts were made last year at the opening of the season. These prices are subject to fluctuations of 1 cent up or down as shown by the refinery market. A notice of four days to one week is given contract customers of any change.

Report by Master In Cracking Suits Off Until October

INDIANAPOLIS, Ind., May 23.—A report of Charles Martindale, master in chancery, on the facts raised by both the defense and the plaintiffs in the Government's suit against the Standard Oil Co. of Indiana and others, charging restraint of trade with reference to the "cracking" process, will not be made before October.

The master must go through the thousands of pages of evidence submitted in briefs for the Government and for the four primary defendant oil companies and make his finding of facts for report to the United States District Court of the northern district of Illinois.

A period of 30 days to file requests for special findings of facts was granted by the master at the conclusion of the arguments here last Friday. More than a week was consumed in arguments, the defendant companies being represented in the closing argument by John W. Davis, former Democratic presidential candidate. Former Governor Nathan Miller of New York represented the Adams cracking process people, who were made a party defendant. Miller contended that the Government was seeking to take away its own grant of patent.

The Government attorneys, led by William F. Donovan, first assistant United States attorney-general, contended that through agreements made between the Standard Oil Co. of Indiana and Texas Company and subsequently between those companies and the Standard Oil Co. of New Jersey and the Gasoline Products Co. with reference to the various patents for cracking gasoline, a monopoly in restraint of trade was set up in violation of the antitrust laws, and that as a result of these agreements competition was eliminated and the price of cracked gasoline raised 2 to 3 cents a gallon.

The master in chancery will consider in his report a complete history of the refining industry. He will also consider the validity of the various patents held by the four primary defendants, which the Government alleges have overlapped and he also will consider what effect the agreements through the issuance of licenses to the 51 secondary defendant companies had on the price of gasoline.

Of course, the major consideration will be his report whether the agreements have resulted in a restraint of trade and the creation of a monopoly.

The case, which has dragged along since 1924 will continue another six months at least before it is finally settled by a ruling of the Illinois District Court on the report of the master. The Government contended in its arguments that although there was no intent on the part of the primary defendants to create a monopoly, the result of the agreements had in fact created one. The defense asserted there was no monopoly created and that they were operating on valid patents on the various cracking processes issued by the Government.

Mr. Donovan in his closing argument asserted that the oil companies have "set up a Frankenstein which has destroyed them."

NEW LUBRICATING COMPANY

CHICAGO, May 21.—Industrial Lubricants Co. has been incorporated for $10,000 with offices and plant at 2914 North Clark Street, Chicago, by C. C. Brown, E. R. Anderson and Frank Moscow to manufacture and distribute oils and greases chiefly for industrial purposes.

Brief Items for Plant Operators

CASPER REFINERY RUNS UP TO 30,000 BBLS.

CASPER, Wyo., May 21.—After announcing a week ago that, in view of the low market and other economic conditions prevalent here, runs would be cut to about 20,000 bbls. daily at the Casper refinery and other plants in proportion, the Standard Oil Co. of Indiana announced May 20 that runs would be increased at once to 30,000 bbls. daily starting at once which will give full-time employment to some 600 men at the Casper refinery who have been working only part time. While the Casper refinery has a normal operation of about 45,000 bbls. daily and this is 15,000 bbls. more than the present run, the situation is considered much better and a general resumption of business is expected in a month or two.

The overproduction of crude in the Mid-Continent is not the only factor that has tended to injure the Rocky Mountain industry in the past few months. The Mississippi River flood has shut off the Baton Rouge outlet for gasoline destined for foreign shipment from Casper. At the same time some gasoline was sold at Baton Rouge, delivered at the tanker docks there for 7 cents, and this price is lower than gasoline can be produced in Wyoming refineries.

The war in China had an acute effect on the Wyoming oil industry. The Casper refinery of the Standard of Indiana had been shipping from 4,000,000 to 6,000,000 pounds of paraffin wax to the Orient from Casper every month, but the warring factions in China have effectually broken up this trade and its resumption is problematical.

PROCESS SCHOOL CLASS GRADUATES AT BAYONNE

Fifty men will be graduated this month from the Process School of the Bayonne, N. J., refinery of the Tide Water Oil Co. These men started the course when it first became available to Tide Water employes in the fall of 1925.

The course covers all phases of refinery processing. Weekly classes are held and a systematic course of study carried on during the two-year course. The school was inaugurated in order that interested employes might keep in touch with all the newest developments in petroleum refining. Bryan Houston, at the Bayonne refinery of the company, is in charge of the course.

BATON ROUGE PLANT ARRANGES FOR CRUDE

HOUSTON, Tex., May 23.—The floods in Louisiana are proving a serious handicap in operating the big refinery of the Standard Oil Company of Louisiana at Baton Rouge. The plant is protected by a series of levees, but no crude can be secured from the Mid-Continent, North Louisiana or Arkansas fields, due to the pipe lines being washed out. The refinery uses around 100,000 bbls. per day and sufficient stocks are on hand to keep it running for 20 days.

Arrangements are being made for the Humble Oil & Refining Co. to ship 40,000 bbls. of light gravity crude per day from Baytown and Texas City, sending it around through the Gulf of Mexico and up the Mississippi River in tankers.

GASOLINE LINE FROM BREA

The General Petroleum Corp. has practically completed a 3-inch line from the Brea Field in California to its refinery located at Los Angeles. The line which is 33 miles long will be used for the transportation of natural gasoline from the field to the refinery.

CALIFORNIA GASOLINE INDUSTRY UNDERGOING IMPORTANT CHANGES

By Paul D. Barton*
President, California Natural Gasoline Association

The freedom of the California natural gasoline industry from contract limitations on testing practice in so far as the payment of royalties is concerned, has fostered the study of the chemistry and physics of the absorption process and their practical applications. The direct result has been a gradual changing of plant and equipment design and of operating conditions as well. Producers have awakened to the importance of natural gas as a distinct product. Even those producing companies which do not operate absorption plants of their own, maintain gas departments and often have a broader viewpoint of the industry itself than some of the larger self-contained companies. Therefore, the tendency is for the producer to be more and more exacting upon the operating company in the matter of efficiency and correct methods. It is not surprising, then, that many of the contracts now being written are for definite and usually short terms. "Blanket" contracts and contracts "for the life of the lease" are becoming a distinct rarity.

So-called "dry" or residue gas resulting from the treatment of wet gas for the extraction of gasoline, has been receiving a lot of attention from both producer and operator. It is rapidly taking on the aspect of a separate commodity and is becoming more and more rigidly accounted for. The rapidly growing practice of producing deep weels by the gas lift method has also accentuated the necessity for strict residue-gas accounting.

Specifications

Specifications for natural gasoline in the sense of classification by grades, are practically unknown in California at the present time. Since the greater part of the production is either owned outright by the refining companies or is being brought under comparatively long term contracts by them, specifications become a matter of agreement between the producer and the user only. The quantity of natural gasoline sold by jobbers on the open market is almost negligible. What few specifications that are in use are rather flexible, usually taking the form of limitations. Thus, 380 degrees Fahrenheit is a common upper limit for the endpoint, 72 degrees A. P. I. is the usual lower limit of gravity. Only recently have vapor pressure and distillation recovery been given much attention. Since most of the production is from oil absorption plants operating at 30-pound gas pressure, and since pipe line delivery is prevalent in the Los Angeles Basin fields, the question of stabilization has been slow to receive consideration.

Other Influencing Conditions

Three other conditions have had an important part in the shaping of the course of the California industry. These are, first, the restricted areas of the chief gas-producing fields; second, the extreme fluctuations in gas volumes, pressures and enrichments; and third, the economics of transportation and storage of the natural gasoline production. The restricted area of the more important fields has been responsible for competitive conditions not only in the bidding for the gas contract, but in the selection of plant equipment and the determination of operating conditions. Together with these competitive conditions, the extreme fluctuations in gas volumes, well pressures and enrichments, have brought out the utmost ingenuity for both flexible and efficient operation without having to overbuild for flush production.

The type of extraction plant which has resulted from this development is highly interesting. The outstanding feature is the great overload capacity of the various plant units without appreciable falling off in efficiency. This is due mainly to the careful design of the individual parts of the plant, with particular regard to the capacity range of each, correlated to the capacity ranges of the other parts of the plant. Such a plant can vary its output over a very wide range with hardly noticeable change in extraction efficiency. A logical development of this principle of flexibility has been the unit type of plant, followed by the portable and the compact factory-built plants. The larger permanent installations have evolved into a more complex type, combining the self-contained unit idea with the battery type of construction.

Magnitude of the Industry

With Oklahoma and Texas together producing only a little over one-half of the nation's natural gasoline, it is interesting to note that California is the chief source of the rest of it. In fact, nearly two-thirds of that other half is being produced in California. Our largest producer has a daily output totaling approximately 400,000 gallons. The average production of all plants in the State is in the neighborhood of 10,000 gallons per day. Several plants are in the 50,000 to 100,000-

(Continued on Page 182)

*Before Association of Natural Gasoline Manufacturers, Tulsa, May 24-26.

AMONG THE TECHNICAL MEN

David E. Day, refinery engineer of the Richfield Oil Co. of California, was born in Washington, D. C., and received his collegiate education at the Johns Hopkins University and the University of Wisconsin. He is the son of the late David T. Day of the United States Geological Survey and Bureau of Mines and was incidentally assistant and associate editor of Day's Handbook of the Petroleum Industry.

David E. Day

After graduating from the University of Wisconsin he started in the oil business as a geologist and petroleum engineer in the Eastern and Mid-Continent fields. Subsequently he carried on research work in oil shale in Colorado, Utah and California. Later he specialized in cracking and refining processes which resulted in his employment as a consulting engineer in the construction of several refineries and cracking plants.

Mr. Day left private work to become refining engineer and technologist of the Richfield Oil Co. in September, 1923, and has been connected with that company since. Mr. Day is generally credited with much of the success of the Richfield refinery at Hynes, Calif. This plant is widely regarded among refiners as approaching the ideal of a compact industrial unit that obtains the maximum of profitably marketed products from California crude. Under Mr. Day's direction the Richfield was one of the first California refiners to crack commercially.

REPAIRS AT PARCO PLANT

Replacing six smaller units which were recently damaged in a fire, the Priducers & Refiners Corp. will install two large Dubbs cracking units at its Parco, Wyo., refinery. Four of the smaller units will be repaired and again operated. The two large units to be built will have the same capacity as the six which are being dismantled.

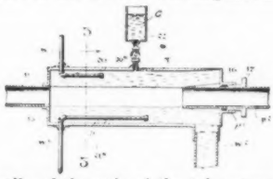
Recent Patents

1,625,984. Art of Distilling Hydrocarbon Material. Edgar M. Clark, New York, N. Y., assignor to Standard Development Co., a corporation of Delaware. Filed January 17, 1921. Serial No. 437,998. Five claims. (Cl. 196—76.)

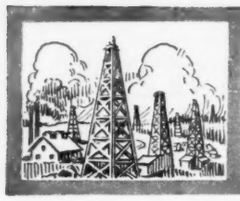
1. The process of producing useful hydrocarbon materials which comprises subjecting the pitch residue resulting from the steam distillation of hydrocarbon oils to heat while supplying steam thereto until still wax distills over, then stopping the supply of steam and continuing the heating of the residue to the formation of coke.

1,627,431. Process of and Apparatus for Condensing, Treating and Washing Hydrocarbon Vapors. Claude Leslie Freeland, Bristow, Okla. Filed September 9, 1921. Serial No. 499,464. Five claims. (Cl. 196-140.)

2. An apparatus of the character specified comprising a tube, means for spraying water into the tube so as to impart to the water a whirling movement



spirally of the axis of the tube, means at one end of the tube for introducing hydrocarbon vapors into a hollow passageway formed by the whirling water, and means at the opposite end of the tube and disposed axially thereof for collecting the condensed vapors.



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	May 24		May 17		May 10	
OKLAHOMA (Group 3)—						
50-52 450 end point (Naphtha)	.06¼		.06⅛	.06¼	.06	.06¼
56-58 450 end point	.06¼		.06⅛	.06¼	.06	.06¼
58-60 450 end point	.06¼		.06¼		.06¼	
58-60 437 end point (U. S. Motor)	.06½	.06¾	.06½	.06⅝	.06½	
60-62 400 end point	.06¾	.07	.06¾	.07	.06¾	
64-66 375 end point	.07	.07¼	.07		.07	
68-70 360 end point	.07½	.07¾	.07½	.07¾	.07½	.07¾
64-66 437 end point (blend)	.06½		.06¼	.06½	.06	.06¼
KANSAS—						
58-60 437 end point (U. S. Motor)	.06¾	.07	.06¾	.06⅞	.06¾	
NORTH TEXAS—						
48-50 450 end point (Naphtha)	.06	.06¼	.06	.06¼	.06	
56-58 450 end point	.06¼	.06½	.06¼	.06½	.06	
58-60 437 end point (U. S. Motor)	.06½	.06⅝	.06½	.06¾	.06¼	.06½
60-62 400 end point	.06¾		.07		.06⅝	.06¾
64-66 390 end point	.06⅞	.07	.07¼		.06¾	
64-66 375 end point	.07		.07¼	.07½	.06¾	.07
68-70 360 end point	.07½		.07½	.07¾	.07¼	.07½
64-66 437 end point (blend)	.06¼	.06½	.06¼	.06½	.06¼	
NORTH LOUISIANA—						
56-58 437 end point (U. S. Motor)	.06¾		.06½		.06½	
ARKANSAS—						
58-60 437 end point (U. S. Motor)	.06¾		.06½	.06¾	.06½	
PENNSYLVANIA—						
52-54 Naphtha	.08¼	.09	.08¼	.09	.08¼	.09
54-56 Naphtha	.08¾	.09	.08¾	.09	.08¾	.09
58-60 Gasoline	.08½	.08¾	.08½	.08¾	.08½	.08¾
60 Gasoline	.09¼	.09½	.09¼	.09½	.09¼	.09½
62 Gasoline	.10	.10¼	.10	.10¼	.10	.10¼
64 Gasoline	.10¼	.10½	.10¼	.10½	.10¼	.10½
CALIFORNIA—						
58-60 437 end point (U. S. Motor) domestic	.09	.10½	.09	.10½	.09	.10½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 end point (Naphtha)	.06¼		.06¼		.06	
56-58 450 end point	.06¼	.06⅜	.06¼		.06	.06¼
58-60 437 end point (U. S. Motor)	.06½	.06¾	.06½		.06⅜	.06½
60-62 400 end point	.06¾	.07	.06¾			.06¾
64-66 375 end point	.07		.07	.07¼	.07	.07¼
68-70 360 end point	.07½	.07¾	.07½		.07½	.07¾
64-66 437 end point (blend)	.06¼	.06½	.06¼		.06¼	.06½

NATURAL GASOLINE

	May 24		May 17		May 10	
OKLAHOMA (Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06⅛	.06¼	.05¾		.05	
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅛	.06¼	.05¾		.05	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¾		.04¾	.05	.04⅜	
Grade B, 76-83.9, 375 e p., rec. 85%	.05¾		.04¾	.05	.04⅜	.04½
Grade C, 80-90, 375 e.p., rec. 78%	.05½		.04⅝		.04	.04¼
NORTH TEXAS—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06⅛	.06¼	.05¾	.06	.05	
Grade A, 72-79.9 e.p., rec. 90%	.06⅛	.06¼	.05¾	.06	.05	.05⅛
Grade BB, 84-92, 375 e.p., rec. 85%	.05½	.05¾	.05	.05¼	.04½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05½	.05¾	.05	.05¼	.04⅜	.04½
Grade C, 80-90, 375 e.p., rec. 78%	.05¼	.05½	.04⅝	.04¾	.04¼	.04½
NORTH LOUISIANA—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06¼		.05¾	.06	.05	.05½
Grade BB, 84-92, 375 e.p., rec. 85%	.06¼		.05¾	.06	.05	.05¼
Grade C, 80-90, 375 e.p., rec. 78%	.05¼	.05½	.04½	.04¾	.04½	.04¾
CALIFORNIA—						
75-85, 375, 390 end point	.09	.10	.10	.10½	.10	.10½
CHICAGO DISTRICT (Based on Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05¾		.05¾		.05	
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¾		.05¾		.05	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼	.05½	.04¾	.05	.04¼	.04⅜
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¼	.05½	.04¾	.05	.04½	.04⅜
Grade C, 80-90, 375 e.p., rec. 78%	.05		.04½	.04⅝	.04	.04⅛

BURNING OIL

	May 24		May 17		May 10	
KANSAS—						
41-43 water white Kerosene	.04¾	.05	.04¾	.05	.04¾	.05
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04⅜	.04½	.04½		.04⅜	.04½
42-44 water white Kerosene	.04¾		.04¾		.04⅝	.04¾
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
NORTH TEXAS—						
41-43 water white Kerosene	.04¼	.04½	.04½		.04¼	.04½
ARKANSAS—						
41-43 water white Kerosene	.04⅝	.04¾	.04⅝	.04¾	.04⅝	.04¾
PENNSYLVANIA—						
43 Kerosene prime white	.06¼	.06½	.06¼	.06½	.06¼	.06½
45 Kerosene water white	.06⅜	.06⅝	.06½	.06¾	.06½	.06¾
46 Kerosene water white	.06⅞	.07⅛	.07	.07¼	.07	.07¼
47 Kerosene water white	.07	.07¼	.07¼	.07½	.07¼	.07½
300 Mineral Seal	.07¾	.08	.07¾	.08	.07¾	.08
CALIFORNIA—						
38-40 water white (high burning test)	.05¾	.06½	.05¾	.06½	.05¾	.06½
Engine distillate, 43-45 445 end point	.07	.07½	.07	.07½	.07	.07½
Engine distillate, 42-44 480 end point	.06¾	.07	.06¾	.07	.06¾	.07
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.04½	.04⅝	.04½		.04¼	.04½
42-44 water white Kerosene	.04⅝	.05	.04¾	.05	.04½	.04¾

FUEL OILS

	May 24		May 17		May 10	
KANSAS—						
24-26 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
38-40 Distillate	.03½		.03½		.03½	.03¾
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil	.85	.87½	.85	.87½	.85	.90
18-22 Fuel Oil	.87½	.90	.97½	.90	.90	.95
22-26 Fuel Oil	.90	.92½	.90	.92½	.92½	.95
24-26 Fuel Oil	.92½	.95	.92½	.95	.95	.97½
26-30 Fuel Oil	.97½	1.00	.97½	1.00	.97½	1.00
28-30 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil (dark)	.02¾		.02¾		.02¾	
32-36 Gas Oil (straw overhead)	.02¾	.02⅞	.02¾	.02⅞	.02¾	.02⅞
36-38 Distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
38-40 Straw Distillate	.03¼	.03½	.03¼	.03½	.03¼	.03½
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.85	.90	.85	.90	.85	.90
32-36 Gas Oil (straw)	.02¾	.03	.02¾	.03	.02⅝	
38-40 Straw Distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
NORTH LOUISIANA—						
18-20 Fuel Oil	1.10	1.15	1.10	1.15	1.10	1.15
32-36 Gas Oil	.02¾	.03	.03		.02¾	.03
ARKANSAS—						
36-38 Distillate	.03¼	.03½	.03¼	.03½	.03¼	.03½
32-36 Gas Oil (straw)	.02¾	.03	.02¾	.03	.02¾	.03
16-20 Refinery Fuel Oil	.95		.95		.95	
GULF COAST (South Texas)—						
Gas Oil	.04¼	.04⅜	.04¼	.04⅜	.04¼	.04⅜
Fuel Oil	1.50	1.60	1.50	1.60	1.50	1.60
PENNSYLVANIA—						
30-34 Fuel Oil	.04¾	.05	.05	.05½	.05	.05½
36-40 Fuel Oil	.05	.05¼	.05	.05¾	.05	.05¾
CALIFORNIA—						
33-36 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
27-32 Distillate	.03¼	.03¾	.03¼	.03¾	.03¼	.03¾
*15-20 Fuel Oil, Bunkers (at tide water)	.85	1.00	.85	1.00	.85	1.00
15-20 Fuel Oil (cargo lots)	.71	.75	.71	.75	.71	.75
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3	.92½	.95	.95		.95	.97½
22-26 Fuel Oil (sellers' cars) Group 3	.90	.92½	.90	.92½	.92½	.97½
18-22 (Group 3)	.85	.87½	.85	.87½	.90	.95
16-20 Smackover	1.12½	1.15	1.12½	1.15	1.12½	1.15
32-36 Gas Oil (zero)	.02⅞	.03⅛	.02¾	.02⅞	.02¾	
32-36 Gas Oil (industrial)	.02⅝	.02⅞	.02⅝	.02¾	.02⅝	.02⅞
36-38 Distillate	.03¼		.03		.03	
38-40 Straw Distillate	.03		.03¼		.03¼	

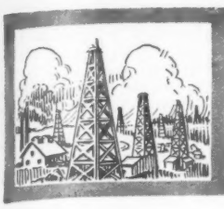
*Bunkers.

LUBRICATING OIL AND WAX

	May 24		May 17		May 10	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06½	.06¾	.06½	.06¾	.06½	.06¾
100 vis., 3 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06¼	.06¾
150 vis., 3 color, 20-25 cold test	.08½	.08¾	.08½	.08¾	.08½	.08¾
150 vis., 4 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08¾
180 vis., 3 color, 23-28 cold test	.10	.10¼	.10	.10¼	.10	.10¼
180 vis., 4 color, 23-28 cold test	.09¾	.10	.09½	.10	.09½	.10
180 vis., 5 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis., 3 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
200 vis., 4 color, 23-28 cold test	.10¾	.10⅞	.10¾	.10⅞	.10⅞	.10⅞
200 vis., 5 color, 23-28 cold test	.10½	.10¾	.10½	.10¾	.10½	.10⅝
240 vis , 3 color, 25-30 cold test	.14	.14¼	.14	.14¼	.14	.14¼
240 vis., 4 color, 25-30 cold test	.13½	.13¾	.13½	.13¾	.13½	.13⅝
240 vis., 5 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
280 vis., 3 color, 25-30 cold test	.15¾	.16¼	.15¾	.16¼	.15¾	.16¼
280 vis., 4 color, 25-30 cold test	.15¼	.15½	.15¼	.15½	.15¼	.15½
280 vis., 5 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
Cylinder Stocks:						
600, steam refined, light green	.07½	.10	.07½	.10	.07½	.10
600, steam refined, dark green	.05	.06	.05	.06	.05	.06
190-200 vis. @ 210 Bright Stock	.31	.33	.31	.33	.31	.33
150-160 vis. @ 210 Bright Stock	.26		.26		.26	
Waxes:						
124-126 White Crude Scale Wax	.02½	.02¾	.02½	.02¾	.02¾	
PENNSYLVANIA—						
34 Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
34 Sundebloom Neutral	.08½	.08¾	.08½	.08¾	.08½	.08¾
36 Miners' Neutral	.07	.07¼	.07	.07¼	.07	.07¼
150, 3 color	.28¼	.28½	.28¼	.28½	.28¼	.28½
180, 3 color	.32¼	.32½	.32¼	.32½	.32¼	.32½
200, 3 color	.34¼	.34½	.34¼	.34½	.34¼	.34½
220, 3 color	.34¼	.36½	.34¼	.36½	.34¼	.36½
600, steam refined	.08¾	.09	.08¾	.09	.08¾	.09
635, steam refined	.10¾	.11	.10¾	.11	.10¾	.11
650, steam refined	.12¾	.13	.12¾	.13	.12¾	.13
600, Pennsylvania flash	.17½	.18	.17½	.18	.17½	.18
630, Pennsylvania flash	.28	.28½	.28	.28½	.28	.28½
*550, E filtered	.17¼	.18	.17¼	.18	.17¼	.18
*600, E filtered	.18¼	.18¾	.18¼	.18¾	.18¼	.18½
600, E filtered	.17¼	.17¾	.17¼	.17¾	.17¼	.17½
600, D filtered	.25	.25½	.25	.25½	.25	.25½
550, E filtered	.17½	.18	.17½	.18	.17½	.18
550, D filtered	.21½	.22	.21½	.22	.21½	.22
Pennsylvania Bright Stock	.33	.33½	.33	.33½	.33	.33½
†122-124 White Crude Scale Wax	.02⅝	.02¾	.02¾	.02⅞	.02¾	.02⅞
†124-126 White Crude Scale Wax	.02¾	.02⅞	.02⅞	.03	.02⅞	.03

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.07	.08	.07½	.08½	.07½	.08½
No. 3 color, 200 vis., pale oil	.10½	.11½	.10½	.11½	.10½	.11½
No. 3 color, 300 vis., pale oil	.11½	.12½	.11½	.12½	.11½	.12½
No. 3½ color, 500 vis., pale oil	.13½	.14	.13½	.14	.13½	.14
No. 4 color, 750 vis., pale oil	.16	.16½	.16	.16½	.16	.16½
No. 5 to 6 color, 200 vis., red oil	.08½	.09½	.08½	.09½	.08½	.09½
No. 5 to 6 color, 300 vis., red oil	.10	.11	.10	.11	.10	.11
No. 5 to 6 color, 500 vis., red oil	.11½	.12½	.11½	.12½	.11½	.12½
No. 5 to 6 color, 750 vis., red oil	.14½	.15½	.14½	.15½	.14½	.15½
No. 2 color, 200 vis., pale filtered	.13	.14	.13	.14	.13	.14
No. 2 color, 300 vis., pale filtered	.14	.15	.14	.15	.14	.15
No. 2½ color, 500 vis., pale filtered	.16	.17	.16	.17	.16	.17
No. 2½ color, 750 vis., pale filtered	.20		.20		.20	
CALIFORNIA—						
130 vis., 2½-3 color	.10½	.11	.10½	.11	.10½	.11
200 vis., 2½-3 color	.11	.11½	.11	.11½	.11	.11½



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

300 vis., 3 -3½ color	.11½	.12	.11½	.12	.11½	.12
350 vis., 3½-4 color	.12	.13	.12	.13	.12	.13
400 vis., 3½-4 color	.13	.15½	.13	.15½	.13	.15½
Red Neutral:						
200 vis., 4½-5 color	.09½	.10½	.09½	.10½	.09½	.10½
300 vis, 5 -6 color	.10½	.11	.10½	.11	.10½	.11
400 vis., 5 -6 color	.12	.13½	.12	.13½	.12	.13½
500 vis., 4½-5 color	.13½	.14½	.13½	.14½	.13½	.14½
500 vis., 5 -6½ color	.12½	.13½	.12½	.13½	.12	.13½
600 vis., 6½ plus color	.13½	.14½	.13½	.14½	.12½	.14½

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	May 24	May 17	May 10
Gasoline, U. S. Motor, 58-60 437	.09	.09	.08¾
Kerosene, water white, 41-43	.07½	.07½	.07
*Fuel Oil, bunker "C," 14-16, per bbl.	1.75	1.75	1.75
*Fuel Oil, Diesel, 28-30, per bbl.	2.30	2.30	2.30
Gas Oil, 28 plus	.05¾	.05¾	.05¾
25 pale Paraffin Oil	.11¾	.11¾	.11¾
28 pale Paraffin Oil	.07¼	.07¼	.07¼
285 red Paraffin Oil	.12¾	.12¾	.12¾
250 red Paraffin Oil	.11¾	.11¾	.11¾
225 red Paraffin Oil	.10¾	.10¾	.10¾
200 red Paraffin Oil	.09¾	.09¾	.09¾
Refined Wax:			
120-122 a.m.p., per lb.	.03⅞	.03⅞	.03⅞
125-127 a.m.p., per lb.	.04	.04	.04
130-132 a.m.p., per lb.	.04⅝	.04⅝	.04⅝
135-137 a.m.p., per lb.	.04⅞	.04⅞	.04⅞
Petrolatum, in bbls.; carload lots, per lb.:			
Dark green	.01¾	.01¾	.01¾
Amber	.03¼	.03¼	.03¼
Extra amber	.03⅝	.03⅝	.03⅝
Cream	.05½	.05½	.05½
Lily white	.07	.07	.07
Snow white	.08	.08	.08

*Lighterage 6 5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	May 24	May 17	May 10
Gasoline, U. S. Motor, 58-60 437, in cases	.2390	.2390	.2390
Kerosene, standard white, in cases	.1615	.1615	.1615
Kerosene, water white, in cases	.1715	.1715	.1715
600 steam refined cylinder stock, in bbls.	.18	.18	.18
635 steam refined	.20	.20	.20
650 steam refined	.22	.22	.22
600 Pennsylvania flash	.26	.26	.26
630 Pennsylvania flash	.34	.34	.34
600 Warren E	.36	.36	.36
600 Oil City E	.24½	.24½	.24½
Light 135 Bright Stock	.42	.42	.42
Dark 135 Bright Stock	.40	.40	.40

LOS ANGELES EXPORT PRICES

	May 24	May 17	May 10
Kerosene water white	.04¼ .04½	.04¼ .04½	.04¾ .04½
U. S. Motor Gasoline, 53-55 437 e.p.	.06½ .07	.06½ .07	.06½ .07

CALIFORNIA CRUDE PRICES

***Standard Oil Co.-Union Oil Co. (Effective April 1, 1927)**

Gravity—	Fullerton, Seal Beach, Long Beach, Huntington Beach, Richfield, Rosecrans-Dominguez, Torrance-Inglewood 1	Whittier, La Habra, Montebello 2	Kern River, Newhall-McKittrick, Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills 3	Coyote 4	Santa Fe Springs 5	Codinga 6	Wheeler Ridge 7	Santa Maria, Ventura, Orcutt, Salt Lake 8
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.85	.85	.75	.85	....	.75	.75	.85
16°	.85	.85	.75	.85	....	.75	.75	.85
17°	.85	.85	.75	.85	....	.75	.75	.85
18°	.85	.85	.75	.85	....	.75	.75	.85
19°	.85	.85	.75	.85	....	.75	.75	.85
20°	.85	.85	.77	.85	....	.76	.76	.85
21°	.86	.85	.79	.86	.85	.77	.77	.85
22°	.87	.85	.81	.87	.86	.78	.78	.85
23°	.88	.85	.83	.88	.85	.79	.79	.85
24°	.89	.85	.85	.89	.85	.80	.80	.85
25°	.90	.86	.87	.90	.86	.81	.81	.86
26°	.92	.87	.89	.91	.87	.83	.82	.87
27°	.94	.88	.91	.92	.88	.85	.83	.88
28°	.96	.89	.93	.93	.89	.87	....	.89
29°	.98	.90	.96	.94	.91	.89	....	.91
30°	1.00	.91	.99	.95	.93	.91	....	.93
31°	1.03	....	1.02	....	.95	.93	....	.95
32°	1.06	....	1.05	....	.97	.95	....	.97
33°	1.09	....	1.08	....	.99	.97	....	.99
34°	1.12	....	1.11	....	1.01	.99	....	1.01
35°	1.15	....	....	....	1.03	1.01	....	1.03
36°	1.18	....	....	....	1.06	....	....	1.06
37°	1.21	....	....	....	1.09	....	....	1.09
38°	1.24	....	....	....	1.12	....	....	1.12
39°	1.27	....	....	....	1.15	....	....	1.15
40°	1.30	....	....	....	....	....	....	....
41°	1.33	....	....	....	....	....	....	....
42°	1.36	....	....	....	....	....	....	....

*Column 1—Long Beach, Seal Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degrees; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.

Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.

Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 33 degrees; Lost Hills and Belridge, 14 to 34 degrees.

Column 5—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura and Orcutt, 14 to 39 degrees. Posted only by Union Oil Co.

CRUDE OIL GRAVITY PRICE TABLE

Gravity—	Okla., Kans., N. La.-Ark. & C. Tex. 1	Smackover, Ark. 2	Stephens, Ark. 3	Wheeler and Gray Counties, (Texas Panhandle) 4	Crane, Upton Crockett Counties (West Texas) 5	Salt Creek, Wyo. 6	Grade B & Light Crude (G. Coast) 7	Somerset (South Central Texas) 8
Below 24	....	1.00	....	....	....	....	....	....
24 to 24.9	....	1.25	....	....	....	....	....	....
Below 25	....	....	....	....	....	....	1.15	....
25 to 25.9	....	....	....	....	....	....	1.17	....
Below 26	....	....	....	....	.70	....	....	....
26 to 26.9	....	....	....	....	.72	....	1.19	....
27 to 27.9	....	....	....	....	.74	....	1.21	....
Below 28	****	....	1.00	....	....	....	....	....
28 to 28.9	1.12	....	1.02	.80	.76	....	1.23	....
29 to 29.9	1.14	....	1.04	.82	.78	1.14	1.25	....
30 to 30.9	1.16	....	1.06	.84	.80	1.16	1.27	....
31 to 31.9	1.18	....	1.08	.86	.82	1.18	1.29	....
32 to 32.9	1.20	....	1.10	.88	.84	1.20	1.31	1.05
33 to 33.9	1.22	....	....	.90	.86	1.22	1.33	1.07
34 to 34.9	1.24	....	....	.92	.88	1.24	1.34	1.09
35 to 35.9	1.26	....	....	.94	.90	1.26	1.37	1.11
36 to 36.9	1.28	....	....	.96	.92	1.28	....	1.13
37 to 37.9	1.30	....	....	.98	....	1.30	....	1.15
38 to 38.9	1.32	....	....	1.00	....	....	....	1.17
39 to 39.9	1.34	....	....	1.02	....	....	....	....
40 to 40.9	1.36	....	....	1.04	....	....	....	....
41 to 41.9	1.38	....	....	1.06	....	....	....	....
42 to 42.9	1.40	....	....	1.08	....	....	....	....
43 to 43.9	1.42	....	....	1.10	....	....	....	....
44 to 44.9	1.44	....	....	1.12	....	....	....	....
45 to 45.9	1.46	....	....	....	....	....	....	....
46 to 46.9	1.48	....	....	....	....	....	....	....
47 to 47.9	1.50	....	....	....	....	....	....	....
48 to 48.9	1.52	....	....	....	....	....	....	....
49 to 49.9	1.54	....	....	....	....	....	....	....
50 to 50.9	1.56	....	....	....	....	....	....	....
51 to 51.9	1.58	....	....	....	....	....	....	....
52 and above	1.60	....	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co. posted new schedule May 5, making price below 33 gravity $1.05 per barrel, with 2 cents increase per degree higher in gravity, taking 33-33.9 gravity at $1.07 as basis, with a top price of $1.45 for 52 and above.

Oklahoma: Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., March 12; Carter Oil Co., The Texas Company, March 14.

North Central Texas—(Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Magnolia only), Currie, Nocona, Moran and Corsicana light); Texas, Prairie, Sinclair and Gulf, March 12; The Texas Company, Humble Oil & Refining Co., March 14.

Kansas—Prairie, Sinclair, March 12; Carter, Texas, March 14.

Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, DeSoto, Haynesville, Homer and El Dorado only); Standard Oil Co. of Louisiana, March 14; The Texas Company, March 14; Magnolia Petroleum Co., Pine Island, Haynesville and Bull Bayou, El Dorado, Gulf Pipe Line Co., March 14.

Column 2—Standard Oil Co. of Louisiana, The Texas Company, Gulf, Atlantic, March 17, Magnolia Petroleum Co. (March 16) posted price of $1 for below 24 degrees and $1.15 for 24 and above. Louisiana Oil Corp. posted following prices effective March 16: Below 24, $1; 24 to 27.9, $1.15; 28 to 28.9, $1.17; 29 to 29.9, $1.19; 30 and above, $1.21.

Column 3—Atlantic Oil Producing Co., March 14.

Column 4—Humble Oil & Refining Co. and Gulf Pipe Line Co., March 14.

Column 5—Humble Oil & Refining Co., Kay County Gas Co. and Gulf Pipe Line Co., March 14.

Column 6—Midwest Refining Co., March 12. All crude over 37 gravity, $1.30 per barrel.

Column 7—Humble Oil & Refining Co. and other major buyers (schedule ends "35 and above"), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. posts 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.

Column 8—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

****Prices for crude below 28 gravity: Oklahoma, Kansas and Texas, Magnolia Petroleum Co., $1.10, March 12; Arkansas, North Louisiana, March 14. Other companies, 2 cents less for each degree with exception of Humble Oil & Refining Co., which pays $1.12 for crude below 28 degrees gravity.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

*Corsicana heavy (March 14, 1927)....$1.00
Other fields .....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

*Carson County .....$ .95
*Hutchinson County ..... .95
Gray-Wheeler Counties...See gravity table

*Humble Oil & Refining Co., Magnolia Petroleum Co., Gulf Pipe Line Co. and Kay County Gas Co., March 14.

WEST TEXAS

*Iatan (Same as North Texas)
Crane-Upton-Crockett.....See gravity table

*Includes Howard County and Westbrook Fields. Kay County Gas Co., pays $1.05 for Howard County crude, effective May 21.

ARKANSAS-NORTH LOUISIANA

Cotton Valley (March 17).....$1.00
Bellevue (Feb. 24, 1927)..... 1.25
Urania (March 16, 1927)..... 1.00
East El Dorado (March 16)..... 1.00
Other fields .....See gravity table

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Gulf Refining Co. and Magnolia Petroleum Co.; Urania, Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)

‡Grade A (March 14).....$1.20
Grade B .....See gravity table
*Jennings, La. (March 14)..... 1.05
†Saratoga, Batson, Dayton (March 14, 1927) 1.20
**Markham March 14..... 1.00

*Gulf Pipe Line Co. †Sun Pipe Line Co. ‡Humble Oil & Refining Co. and other major buyers. **The Texas Company.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

*Luling (May 5).....$1.00
†Mirando (March 14)..... 1.00
Rockdale-Minerva (Milam County)..... 1.25
*Thrall ....
Callihan (May 15) 1.75
Lytton Springs (Lockhart) See gravity table
Somerset .....See gravity table

*Posted by Magnolia Petroleum Co. Thrall prices same as north central Texas less 19¼ cents per cwt. freight.

†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Pipe Line Co.

ROCKY MOUNTAIN STATES

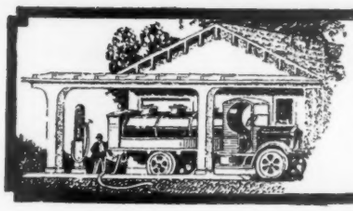
Ohio Oil Co.-Midwest Refining Co.

(Effective March 14)

Rock Creek, Wyo. (March 12).....$1.35
Salt Creek .....See gravity table
Big Muddy (March 12)..... 1.25
Mule Creek (February 23)..... 1.30
Grass Creek, light (March 12)..... 1.33
Grass Creek, heavy ..... .65
Elk Basin (March 12)..... 1.33
Lance Creek (March 12)..... 1.33
Poison Spider 1.00
Notches ..... .65
Rex Lake (February 23)..... 1.10
Osage 1.33
Lost Soldier (contract) (May 17)..... 1.60
Greybull-Torchlight 1.33
Hamilton Dome 1.35
Cat Creek (Mont.) 1.33
Sunburst (Mont.) (October 5)..... 1.35
Artesia (March 12)..... 1.00
Hogback (N. Mex.) (March 14)..... 1.30

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refin-

(Continued on Page 176)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns May 24.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Chicago dist.	14.0	16 0	...	12 0
Decatur, Ill.	14 2	16 2	...	12 1
E. St. Louis	13 1	15 35	...	11.2
Joliet	14.4	16.4	...	12 3
Peoria	14 2	16 2	...	12 1
Quincy	14.2	16.2	...	10 9
Davenport, Ia.	16.5	18 5	2 0	12 3
Des Moines	16 0	18 0	2 0	12 3
Keokuk	16 5	18.5	2.0	12 3
Sioux City	16 1	18.1	2 0	11 9
Duluth, Minn.	17 5	19 5	2.0	12.9
Minneapolis,	17 2	19 2	2 0	12 9
Mankato	15.1	17.1	2.0	12.7
LaCross, Wis.	17 2	19 2	2 0	13 0
Milwaukee	16 1	18 1	2 0	11 9
Madison	16 3	18 3	2 0	12.1
Detroit, Mich.	16 8	18.8	2 0	12 7
Grand Rapids.	16.7	18.7	2 0	13 6
Saginaw	16 9	18 9	2 0	13 6
Evansville, Ind.	17 0	19.0	3.0	13 0
Ft. Wayne	17 4	19 4	3 0	13 4
Indianapolis	17 2	19.2	3 0	13 2
South Bend	17 4	19.4	3.0	13 4
Fargo, N. D.	17.0	19.0	2.0	14.9
Huron, S. D.	15 5	17 5	3.0	13.9
Sioux Falls	17 3	19 3	3 0	13 4
*K. C., Mo.	16 9	18.9	3 0	10 6
*Springfield	16.8	18 8	3 0	11 5
*St. Louis	15 6	17 9	2 5	11.3
*St. Joseph	16 5	18 5	3 0	11 2
Wichita, Kans.	14 8	16 8	2 0	10 8
Bartlesville, Ok.	15 0	17.0	3 0	10 8

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	16 0	11 75
V. M. & P. Naphtha	18 0	13.75
Cleaner's naphtha	18.0	13.75
Stanisol	19 0	...

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL

Less than 100 gallons	9 0
100 to 799 gallons	8 0
800 or more gallons	7 5

Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district where discount applies only to dumps of 100 gallons. Kerosene subject to 1 cent discount on dumps of 50 gallons or more.

In addition the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. In the Chicago district purchases of 750 to 2,000 gallons a month discounted one-half cent; and, 2,000 to 6,000 gallons, three-quarters cent. If the quantity bought during the year is 12 times the monthly agreed purchases the discount is paid or credited on the entire quantity less monthly payments.

Monthly service station deliveries of 200 gallons or more, and annual deliveries of 2,400 gallons or more are discounted 2 cents.

*State tax 2 cents; remainder city tax.

SOUTHWESTERN DISTRICT

***Magnolia Petroleum Co.**

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Dallas, Tex.	13.0	16 0	3 0	11 0
Fort Worth	13 0	16 0	3 0	11 0
Houston	15 0	19.0	3 0	15.0
San Antonio	13.0	16 0	3 0	11 0
El Paso	17 0	19 0	3 0	16 0
Texarkana	15 0	18 0	3 0	12.0
Muskogee, Ok.	14.0	17.0	3.0	10.0
Okla. City	14.0	17.0	3.0	10.0
Tulsa	14.0	17.0	3.0	10.0
Little Rock	17 0	20 0	4 0	12 0
Ft. Smith, Ark.	17.0	20 0	4 0	12 0

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, one-half cent; over 2,000 gallons, three-quarters cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 9,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons a month, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases in the tank wagon discounts.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
*N. Orleans, La.	15.5	18.5	3.0	14.0
Baton Rouge	14 0	17.0	2 0	12 5
Alexandria	15 0	18 0	2 0	14 0
LaFayette	15 0	18 0	2 0	13 5
Lake Charles	15 5	18 5	2.0	14.0
Shreveport	14.0	17.0	2.0	13.0
Knoxville, Tenn.	19.5	22.5	3.0	15.0
Memphis	13.0	16.0	3.0	14.0
Chattanooga	19.5	22.5	3.0	15.0
Nashville	16.5	19 5	3 0	15 0
Bristol	19 0	22 0	3.0	14 0
Lit. Rock, Ark.	17.0	20 0	4 0	12.0

*Tax of 3 cents includes city tax of 1 cent.
*Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

OHIO

Standard Oil Co. (Ohio)

	Tank wagon	Service station	Incids tax of	Tank wagon
	Gasoline			Kero.
All Ohio points	19.0	21 0	3 0	15.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Atlanta, Ga.	18.0	21.0	4.0	15.0
Augusta	19.0	22.0	4.0	16.0
Macon	19.0	22.0	4.0	16.0
Savannah	18 0	20 0	4 0	14 0
Birm'h'm, Ala.	18.0	21.0	4.0	15.5
Mobile	17.0	20 0	4.0	15.0
Montgomery	19.0	22.0	5.0	16.5
Clarks'le, Miss.	17.0	20.0	4.0	13.5
Jackson	17 0	20.0	4.0	14.5
Natchez	16.5	19.5	4.0	14 0
Gulfport	17.5	21.5	6.0	14.0
Vicksburg	16.5	19.5	4.0	14.0
Jack'ville, Fla.	17.0	20.0	4.0	14 0
M'ami	19.0	22.0	4.0	15.5
Pensacola	18.0	21.0	5.0	15.0
Tampa	16.0	19.0	4 0	14 0
Covington	20.0	23 0	5 0	15 5
Louisville	19 0	22 0	5 0	15 0
Lexington, Ky.	18 0	21 0	5.0	15 5

In addition to the state tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Prices in Georgia include one-half cent inspection fee on gasoline and kerosene; in Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1 cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Pittsburgh, Pa.	16 0	*21 0	...	14 0
Philadelphia	14.0	18.0	...	14.0
Scranton	16.0	*21 0	...	14 0
Allentown	16.0	*21 0	...	14 0
Altoona	16 0	*21 0	...	14.0
Erie	14.0	19.0	...	14 0
Dover, Del.	19 0	22 0	3 0	14 0
Wilmington	19.0	22 0	3 0	14 0
Spring'd, Mass.	17.0	19 0	...	15.0
Worchester	17.0	19.0	...	15.0
Boston	17.0	19.0	...	15.0
Providence, R.I.	18.0	20.0	...	15.0
Hartford, Conn.	21.0	23.0	2.0	15.0
New Haven	21.0	23.0	2.0	15.0

*Includes tax of 2 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Atlantic City	16.0	...	...	14.0
Newark, N. J.	16 0	18 0	...	14 0
Annapolis, Md.	20 0	....	4 0	14 0
Baltimore	20 0	23 0	4.0	10.0
Cumberland	20 0	23.0	4 0	14 0
Washington	18 0	21.0	2 0	12 0
Danville, Va.	20 5	...	4 5	14 0
Norfolk	20 5	23 5	4 5	14.0
Petersburg	20 5	23 5	4 5	14 0
Roanoke	20.5	23 5	4 5	14 0
Richmond	20 5	23.5	4 5	14 0
Charleston, W. Va.	19 5	22 5	3.5	14 0
Keyser	19 5	....	3.5	14 0
Parkersburg	19 5	22 5	3 5	14.0
Wheeling	19 5	22 5	3 5	14 0
Charlotte, N. C.	20.0	23 0	4 0	14.0
Hickory	20 0	23 0	4.0	14 0
Mt. Airy	20 0	23.0	4 0	14 0
Salisbury	20 0	23 0	4 0	14 0
Charl'stn, S. C.	20 0	23 0	5 0	14.0
Columbia	20 0	20 0	5.0	15 0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Albany, N. Y.	19 0	21 0	...	15 0
*New York	19 0	23 0	...	15 0
Buffalo	18 0	21 0	...	14 0
Rochester	17 0	20 0	...	14 0
Syracuse	19 0	21 0	...	15 0
Boston, Mass.	19.0	21.0	...	15.0
Augusta, Me.	22 0	26 0	3 0	15 0
M'nchst'r, N.H.	21 0	23 0	2 0	15 0
Burlington, Vt.	21 0	23.0	2.0	15.0

*Price in steel barrels.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
San Francisco	15 0	19 0	2 0	15.5
Pueblo	16 0	16 0	2 0	15 5
Los Angeles	14 5	18 5	2 0	15 5
Reno, Nev.	21 0	25 0	4 0	19 0
Portland, Ore.	16 5	20 5	3.0	16.5
Seattle, Wash.	15 5	19 5	2 0	16 5
Tacoma	15 5	19 5	2.0	16.5
Spokane	19 5	23 5	2 0	20 5
Phoenix, Ariz.	21.0	25.0	3.0	20 5

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Omaha	15 25	18 25	2 0	12 25
McCook	17 75	19 75	2 0	13 75
Norfolk	16 75	18 75	2 0	12 75
N. Platte	17 75	19 75	2 0	13 50
Scottsbluff	17 25	19 25	2.0	13.00

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Denver, Colo.	17 0	18.0	2.0	15.5
Pueblo	17 0	18 0	2 0	15.5
Grand Junction	20 5	22 5	2 0	19 0
Casper, Wyo.	18 0	20 0	3 0	14 0
Cheyenne	18 0	20 0	3.0	15.5
Butte, Mont.	22 0	22 0	3 0	19 0
Helena	22 5	24.5	3.0	19 0
Salt Lake, Utah	21 0	23 0	3 5	17 0
Boise, Idaho	23 5	25 5	4 0	19 0
Twin Falls	23 5	25 5	4.0	19.0
Albuq'que, N.M.	21 0	24.0	5 0	18 0

TANK WAGON CHANGES

May 14—Standard Oil Co. of Kentucky reduced the gasoline tank wagon and station prices throughout practically their entire territory. The reductions, with a few exceptions, were as follows: Points in Georgia, 1 cent; Alabama, 1 to 2 cents; Mississippi, 2 cents; Florida, 1 cent, and Kentucky, 1 cent.

May 15—Atlantic Refining Co. reduced the gasoline tank wagon and station prices 2 cents in Massachusetts and Rhode Island and reduced the kerosene tank wagon price 1 cent at Springfield, Worcester, Providence, Hartford and New Haven.

May 16—Standard Oil Co. of Kentucky reduced the kerosene tank wagon price 1 cent at Atlanta.

May 16—Magnolia Petroleum Co. reduced the gasoline tank wagon and station prices 1 cent at Fort Worth.

May 17—Standard Oil Co. of Indiana reduced the gasoline tankwagon and station prices 1 9 cents at Fargo.

May 19—Standard Oil Co. of Louisiana reduced the gasoline tank wagon and station prices 2 cents at New Orleans and reduced the gasoline tank wagon and station prices 4 cents at Memphis.

May 19—Continental Oil Co. reduced the gasoline tank wagon price 1 cent and the station price 2 cents at Pueblo.

May 25—Standard Oil Co. of Ohio advanced gasoline tank wagon and service station prices 1 cent in Ohio. Increase due to fact that gasoline tax was increased from 2 to 3 cents.

CRUDE CHANGE

May 21—Kay County Gas Co. reduced Howard County crude to flat $1.05 per barrel.

CALIFORNIA MARKETERS FIGHT "BOOTLEG" EVIL

LOS ANGELES, Calif., May 21.—The domestic gasoline market in California continues to command interest. At present the market is very unsettled with the larger companies endeavoring to work towards stabilization. Larger marketing companies are taking definite steps in an effort to eradicate the "bootleg" gasoline evil. There has been an attempt to reach an agreement to the effect that no company will sell its gasoline to an independent service station which is advertising gasoline at a cut-rate price. Certain companies are showing signs of adhering to this policy and where independent service station dealers would not take down the 6-for-$1 and like signs, they have removed their own signs from the station. Attempts are also being made to bring the smaller refiners in line by having them raise their prices to the so-called "bootleg" dealer so he in turn will have to sell to the independent service station at a sufficiently high price to necessitate the service station dealer selling at the price listed by the larger marketing companies at their own stations.

This campaign against cheap gasoline is noticeable particularly in the Los Angeles territory where the evil is the greatest. Due to the proxmity of the high gravity oil fields in the Los Angeles Basin, it is possible for small refiners to manufacture gasoline and sell at prices under those maintained by the larger marketing companies. For this reason it is obvious that it will be difficult to entirely stop the marketing of "bootleg" gasoline in this territory.

During the past week more and more operators in the Alamitos Heights Field have come around to the belief that this field very possibly has already reached its peak and is at present on the decline. While if this is true operators in this territory will be forced to take heavy losses, the outlook for lessened production from this field than previously anticipated has had an encouraging effect upon marketers and has actually strengthened the psychology of the present market to a certain extent.

California marketing companies are anxiously awaiting warmer weather as it is almost time for the summer demand to set in in full swing and with it the material increase in gasoline sales. At present the weather is cool and unsettled and motorists are not making the trips that they otherwise would make at this time of the year with consequent smaller gasoline sales. A spell of hot weather at this time would also help to bolster the market somewhat.

CRUDE OIL PRICES

(Continued from Page 175)

ing Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective March 7)

Penna Grade Oil in New York Transit Line (New York)	$2.90
Bradford District Oil in National Transit Lines (Pennsylvania)	2.90
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.80
Penna Grade Oil in Southwest Pennsylvania Lines (West Virginia)	2.80
Penna Grade Oil in Eureka Pipe Line lines (Pennsylvania)	2.75
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.60
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) March 16	1.40
Corning 35-cent grade oil in Buckeye Pipe Line Co.'s line (March 17)	1.35
Corning 25-cent grade oil in Buckeye Pipe Line Co.'s lines (March 17)	1.45
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) March 16	1.50
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky)	.95
Kelster (Pennsylvania)	1.10

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective March 14)

Lima	$1.71
Wooster	1.77
Illinois	1.60
Indiana	1.42
Princeton	1.60
Plymouth	1.33
Waterloo (Nov. 17, 1926)	1.35
*Western Kentucky	1.35
†Cumberland, Barren, Clinton and Monroe Counties, Kentucky (March 16)	1.60
‡Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (March 16, 1927)	1.60
†Clay County, Tennessee (November 18)	2.35
§Oil Springs (Canada)	2.10
§Petrola (Canada)	2.11

*Posted by Ohio Oil Co.
†Posted by Paragon Development Co.
‡Posted by Stoll Oil Refining Co.
§Posted by Imperial Oil Co., Ltd.

MEXICO

(Effective May 13)

*Tuxpam light (f.o.b. Mex. ports)	$1.35
†Panuco heavy (f.o.b. Mex. ports)	1.15
Tuxpam (New York)	2.15
Panuco (New York)	1.80

*Plus 32.328c tax. †17.631c tax.

This SIGN will tell a motorist you have *two reasons* why he should drive into your station.

1st *You have a motor oil of unexcelled quality at a right price.*

2nd *You have a sound, common-sense method of selling it.*

EVERY Authorized Opaline Dealer receives our Recommendation Index (based on the Sinclair Law of Lubrication) on which are listed cars, trucks, buses and taxis—and showing when the different grades of Opaline Motor Oil should be used. The Dealer asks the motorist how many miles his car has been driven—and then gives the motorist the correct grade of Opaline to fit the degree of wear in his engine, and seal its power.

May we tell you about this successful method of selling *correct lubrication* with the full line of Opaline Motor Oils?

SINCLAIR REFINING COMPANY, INC.

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SINCLAIR OPALINE MOTOR OIL
REG. U.S. PAT. OFF.

Seals Power at every Degree of Wear

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Jersey Company Diagnoses Conditions

Annual Report Summarizes View of Causes and Suggests Necessary Remedies. Financial Review of 1926

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, May 23.—New capital employed in the petroleum industry in the past decade has been in excess of economic requirements, marketing facilities have been multiplied, refining facilities increased in excess of requirements, and potential petroleum areas both in the United States and abroad so rapidly developed that an unprofitable surplus of crude oil and its products has been created.

George H. Jones, chairman of the board, and Walter C. Teagle, president, Standard Oil Co. of New Jersey, thus sum up the causes for current conditions in the industry in their annual report to stockholders.

"The net result of this has been to make petroleum products the cheapest and most accessible of modern commodities," they state, "to promote the expansion of other industries, notably the manufacture of motor cars, and to stimulate commerce generally. Expansion has also been accompanied by higher overhead charges, increased costs of operation and a consequent diminished return upon the industry's capital investment.

"Either a curtailment of drilling activities, a decrease in production from existing fields and a halt in the construction of marketing and refining facilities, or a more repid increase in consumption will be necessary before the petroleum industry can enjoy average earnings comparable to those of other lines of trade."

Burden of Storage

After comparing production and prices in 1926 with those of 1925 and tracing the fluctuations of prices, the report states:

"The current oversupply aggravated the problem of carrying unduly large reserves created during previous flush periods of production, and thereby increased the financial burden of storage. As a matter of fact, smaller reserves are sufficient now as a safeguard for periods of underproduction than was the case when much of this stored oil was accumulated, by reason of the increased yield of gasoline per barrel obtainable through modern refining methods.

"It is now recognized that current price conditions and drilling obligations have kept surplus crude stocks from functioning as a real reserve. Had stocks been more liberally drawn upon early last summer and the stimulus of high prices been lacking, it is doubtful if the industry would have prosecuted the intensive drilling campaign which is today resulting in a flood of oil. The oil would have remained in the ground to be withdrawn when needed."

Messrs. Jones and Teagle state that the Federal Oil Conservation Board's preliminary report recognized the need for co-operative effort not alone among oil units, but between the industry and the Government as well; that coming at a time when overproduction is a problem, the report has had a salutary influence and there are evidences of improvement on lines of the board's recommendations. "However," they add, "the true possibilities of conservation of the United States' petroleum supplies and their more economic employment are still largely to be realized."

New Jersey Annual Report

The annual report of the Standard Oil Co. of New Jersey for 1926 shows the largest net earnings since 1920. Net income of $117,652,201 after expenses, depreciation, depletion, Federal taxes, etc., was equivalent to $5.01 a share (par $25) earned on 20,695,902 shares of common stock. This compares with 1925 net of $111,231,355, or $4.72 a share. Total assets at the close of 1926 had increased to a record figure of $1,541,945,125.

The income account of Standard of New Jersey and affiliated companies for 1926 compares with 1925 as follows:

	1926	1925
Gross earnings	$1,283,554,860	$1,122,682,610
Other income	25,409,173	22,837,894
Total income	$1,308,964,033	$1,145,520,504
Operation charges and expenses	1,119,236,425	972,693,628
Fed. tax reserve	16,107,695	13,188,618
Depr. & depletion	55,967,712	48,406,903
Consol. net Income	$ 117,652,201	$ 111,231,355
Pref. dividends	13,998,103	13,998,103
Com. dividends	23,230,676	20,395,991
Surplus	$ 80,423,422	$ 76,837,261

The consolidated balance sheet of the Standard Oil Co. of New Jersey and affiliated companies as of December 31, 1926, compares as follows:

Assets	1926	1925
†Real estate, plant and equipment	$ 550,789,966	$ 514,312,310
Investment stocks other corps.	123,045,400	108,361,044
Govt. and other marketable securities	*198,823,806	50,753,422
Invest. miscel. properties	10,497,661	5,680,232
Inventories	*303,068,933	294,231,375
Accts receivable	*344,095,979	384,055,959
Cash	*11,623,380	11,776,029
Total	$1,541,945,125	$1,369,170,371
Liabilities		
Preferred stock	$ 199,972,900	$ 199,972,900
Com. stock (par $25)	517,397,550	514,706,025
Funded debt	120,000,000	.....
Accts. payable	241,350,289	275,062,977
Fed. tax reserve	17,867,296	16,022,713
Insurance reserve	18,566,293	14,181,775
Surplus	426,790,797	349,224,881
Total	$1,541,945,125	$1,369,170,371

† After depreciation and depletion.
* Includes proceeds of sale of $120,000,000 debentures.

The annual report to stockholders of George H. Jones, chairman, and Walter C. Teagle, president, said:

"In 1926 the company's gross crude oil production amounted to 61,839,440 bbls. Of this, 34,343,899 bbls. were produced in the United States. Its gross foreign production totaled 27,495,541 bbls., obtained through affiliated companies operating in Peru, Colombia, Mexico, Rumania, Poland, Canada, Dutch East Indies, Venezuela, Bolivia and Argentina.

"The total production by the Standard Oil Co. of New Jersey and affiliated companies decreased by about 10,000,000 bbls. compared to 1925. This loss was chiefly accounted for by decreases in Texas and Mexico. There was a large increase in the production of the company's subsidiary in Colombia. The 360-mile pipe line under construction there was completed, and since the middle of last year has been delivering to tank steamers at Cartagena approximately 30,000 bbls. a day. The capacity is now being increased to 50,000 bbls. a day.

"The extraction of gasoline at recovery plants from gas produced from oil and gas wells was materially increased during the past year. The total casinghead and natural gas gasoline obtained was 3,045,000 bbls., which compares with 2,200,000 bbls. in 1925.

"Through four affiliated pipe line companies operating a total of 2,422 miles of trunk lines, the company had delivered at terminals last year nearly 97,000,000 bbls. of oil, or 10,000,000 in excess of the figures of crude transported and delivered in the preceding year.

"An average of 74 vessels of 854,522 deadweight tons were operated in 1926. Of these ships, 34 were under the American flag and 40, owned by European subsidiaries, were operated under foreign flags. Including operations of foreign subsidiaries and chartered vessels, 128,000,000 bbls. of oil were moved. The owned and long-term charter fleet traveled 2,681,074 miles.

Natural Gas Properties

"The company added substantially to its investment in natural gas properties. It purchased through a subsidiary all of the properties of the American Natural Gas Co. in western Pennsylvania, thereby effecting economies in operation, as the properties acquired were in large part contiguous to others of the old subsidiary companies and strengthened the gas reserves available for the markets in Pittsburgh and vincinity."

One of the features of the company's balance sheet is the gain in the item of "government and marketable securities," which stood at more than $198,000,000 at the close of 1926, compared with about $50,000,000 at the end of 1925, a gain of $148,000,000. This probably reflects the temporary investment of funds raised through the sales of $120,000,000 bonds pending actual retirement and cancellation of the preferred stock.

Largely as a result of a conservative dividend policy, the company added over $80,000,000 to surplus during 1926 out of earnings, bringing the profit and loss surplus at the close of the year up to $426,790,797.

Oil Price Too Low

Summarizing current oil conditions, the annual report says:

"The overproduction of crude oil in the latter half of 1926 affected earnings of the company to some extent in the late months but did not exercise its full influence until after the turn of the year. Successive reductions in posted prices have brought crude below the average cost of producing except in the newest prolific areas.

"As to petroleum products, consumption has substantially increased over last year, but overproduction and stress of competition have brought selling prices to unremunerative levels.

"The Standard Oil Co. of New Jersey and its subsidiaries have curtailed producing activities wherever practicable; have shut down pressure stills and other-

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	Clos. Quot. May 23	Clos. Quot. May 16	1927 High	1927 Low	1926 High	1926 Low	1925 High	1925 Low
Amerada Corp.	..	29⅜	29¾	37⅝	30⅜	32⅞	24⅜	..	..
Atlantic Refining, com.	100	*109	109	117⅜	107	128⅜	97	117½	95½
Barnsdall "A"	25	24⅝	25¼	35½	26¾	32½	23½	33½	18¾
California Petroleum, com.	25	24⅞	25¼	32⅜	24⅞	38⅛	30⅞	34⅜	23⅝
Houston Oil	100	136¾	130	124¾	60½	75	50¼	85	59
Independent Oil & Gas	..	18¾	19¼	32¾	19½	34	20¼	41¾	13½
Louisiana Oil	10	12¼	12⅝	18¼	12⅝	19⅝	12	23⅜	13¾
Maracaibo	..	13⅜	*15	22¾	15	27¾	18⅜	35½	20¾
Marland	..	37⅜	37⅞	58¼	37⅛	63⅜	49¼	60⅛	32⅝
Mid-Continent Petroleum	..	31⅞	30¾	39⅜	30⅞	41	25⅝	38	25⅞
National Supply	50	81½	81½	95¾	82½	84⅞	55½	71	54¾
Oil Well Supply	25	33	33½	40⅜	31¼	36	30	38	33⅜
Pan American, B	50	57⅞	59⅝	65⅝	57½	72⅝	56⅛	83⅞	59½
Pan American, Western B	..	20½	22½	37⅞	26⅞	46	34	94⅜	37¼
Phillips Petroleum	..	43⅝	43½	60¼	41⅛	54⅞	42⅛	47⅛	36¼
Producers & Refiners	50	30	31	32	16¾	26	11	32⅝	12½
Pure Oil, com.	..	26⅜	27⅝	32⅝	26¾	31	25⅜	33¾	25½
Royal Dutch, N. Y., sh.	13.40	49⅝	49⅝	54½	50	57⅝	49⅜	67⅝	48¼
Shell Transport	10	*42½	46	49	44½	48⅞	42	49	39⅜
Shell Union, com.	..	27⅝	28¼	31⅜	26⅞	30⅞	24	28¾	21⅝
Simms Petroleum	10	15⅜	15⅞	22¾	18⅜	28⅝	16½	28½	17⅜
Sinclair Consolidated	..	17	17⅜	22⅜	17⅝	24⅞	16⅜	24⅞	17
Skelly Oil	25	26¼	25⅝	37⅜	26⅞	37½	27	32½	21¾
Standard of California	25	53½	54⅜	60¾	52⅝	63½	54	67¼	52½
Standard of New Jersey, com.	25	37	36⅞	41⅜	36	46⅜	37½	47½	38⅜
Standard of New York	25	30	30⅝	34½	31	47¼	30⅝	48⅝	40
Sun Oil Co.	..	31	32	34⅞	30	41⅝	30½	43⅞	38½
The Texas Company	25	47½	47½	58	43⅜	58	48	55	43¾
Texas Pacific Coal & Oil	10	12¼	12½	16⅜	13	19½	12½	23⅜	11
Tide Water Oil	25	*22	*22½	29⅜	27	39⅛	27	..	..
Transcontinental	..	5⅛	4	5	4⅛	5½	3	5⅝	3½
Union Oil of California	25	42	43¼	56½	39⅝	58⅜	37¼	43⅝	33½
Union Tank, com.	100	109⅜	106	112½	95	120⅜	84½	†134	118
White Eagle Oil & Refining	..	24	24	27½	22	29¾	25⅛	21¾	25⅝
Standard Oils									
Anglo-American Oil	£1	*18¾	*19⅝	21⅝	18¾	19⅜	16⅛	26¾	17½
Borne Scrymser	25	50¾	*50	69	53¼	75	65	‡240	205
Buckeye Pipe Line	50	53	53¾	45	59½	47⅝	47⅝	72	63½
Chesebrough Manufacturing Co.	25	*91	93½	95	76½	81½	63	74	98¼
Continental	10	17⅝	17¾	22⅜	18	25⅞	19¼	31½	21⅞
Cumberland Pipe Line	100	*93½	93	137	106	137	102	156	128
Eureka Pipe Line	100	52	*50½	51¼	47	53⅝	43	96	61¼
Galena Signal, com.	100	*7½	*8¾	13½	10¼	32½	9⅞	68½	23½
Humble Oil & Refining Co.	25	56¼	57⅛	62⅝	54	99⅝	52	99	42½
Illinois Pipe Line	100	*139	141	141	123⅝	144	131	154½	124
Imperial Oil	..	43¼	*44½	46	37¾	39¾	32½	39¼	27¼
Indiana Pipe Line	50	72½	68	69½	61	68	52¼	84	87½
International Petroleum Co.	10	29	29⅞	34⅞	30⅝	35¼	28⅝	25⅝	22⅝
National Transit Co.	12.50	16⅝	*16⅝	14	13⅝	20⅝	27¼	25½	16½
New York Transit	100	*32½	32½	36	31¼	51½	27¼	70	50
Northern Pipe Line	100	84½	*78	79¼	70	80½	64	88	67½
Ohio Oil Co.	25	56⅝	55½	64¼	57½	67⅝	55⅝	75¼	60
Penn-Mex Fuel	25	*17	16½	19	16½	24⅛	15	44	19
Prairie Oil & Gas	25	46⅜	47½	55½	43¼	60¼	48	65½	45⅞
Prairie Pipe Line	100	164¾	164¾	165½	132	137½	122½	129¾	105
Solar Refining Co.	100	*183	*183	101½	185	212	184½	159	200
South Penn Oil	25	35	35½	41½	35½	50	35	‡197	139
Southwest Pa. Line	100	72	*65	62½	55½	56	47½	84	50
Southern Pipe Line	50	19½	17½	27¼	15½	27	24	‡103	63
Standard of Indiana	25	68¼	66	74¼	66½	10½	61½	70⅜	69¼
Standard of Kansas	25	*16½	*16⅜	20⅞	15⅝	36½	16½	46	30¼
Standard of Kentucky	25	113⅜	114½	122¼	114½	134⅝	108	137	114⅝
Standard of Nebraska	25	*46	*46	49½	46½	51⅜	42	‡270	231
Standard of Ohio, com.	100	76¼	78	254	335	362	192½	369	338
Swan & Finch, com.	25	*15	*15½	16	15	21	18	27	12
Vacuum Oil	25	116	111⅞	117⅝	95½	109⅝	94½	109½	80½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	89⅝	90	96½	82¼	95	82½	98¼	63½
Tidewater Associated	..	16⅛	17⅛	23½	16½	17	21	..	..

*Bid, no sales. ‡Old stock. †New stock.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

May 23	57.89	Apr. 18	57.42	Mar. 14	59.26
May 16	58.10	Apr. 11	57.37	Mar. 7	59.34
May 9	58.08	Apr. 4	56.63	Feb. 26	60.83
May 2	57.13	Mar. 28	58.51	Feb. 21	60.26
Apr. 25	57.03	Mar. 21	58.03	Feb. 14	61.13

wise sought to protect their position and at the same time to assist the general situation of the industry. It is apparent that the company's earnings for the year 1927 will reflect the present unsatisfactory conditions."

The following table gives a comparison of various operating department's activities in 1926 and 1925:

	1926	1925
Total gross crude output, bbls.	61,839,440	71,924,683
Natural gas output bbls.	3,045,000	2,200,000
Refinery runs, bbls.	140,679,395	139,000,000
Daily average, dom. plants, bbls.	309,167	317,764
Daily average, foreign plants, bbls.	76,256	63,503
Pipe line runs, bbls.	97,000,000	86,538,652
Tank steamer movement, bbls.	128,000,000	(Not given)
Natural gas sales, M. cu. ft.	102,540,102	89,062,758

A significant feature of the above table is the fact that refinery runs abroad increased over 1925, while domestic refinery runs decreased.

Sun Oil Financing

Brown Brothers & Co. and Edward B. Smith & Co. are offering $4,500,000 Sun Oil Co. 6 per cent cumulative preferred stock at 100 and accrued dividend. This is a new issue, consisting of $5,000,000 to be presently issued out of a total of $10,000,000 authorized.

The proceeds of the sale of this issue will be used to defray the cost of extensive improvements completed or in construction at the company's refineries, to increase its producing, distributing and storage facilities and for other corporate purposes.

The capitalization, after giving effect to the present issue of preferred stock, follows:

15-year 5½ per cent debentures	$9,332,500
Equip. trust certificates	333,000
6 per cent cum. preferred stock	5,000,000
Common stock, (no par value) shs.	1,166,571

J. Howard Pew, president of the Sun Oil Co., states that the conservative policy of building up the property out of earnings is indicated by the fact that out of total net profits of over $31,500,000 in the past 10 years less than $6,500,000 has been paid in cash dividends while over $25,000,000 has been reinvested in the business.

The company has followed a conservative policy with respect to capitalizing leases. Actual values of fixed assets are considerably in excess of net values.

The consolidated balance sheet of the company and its subsidiaries December 31, 1926, adjusted to give effect to the issuance of this $5,000,000 6 per cent cumulative preferred stock, shows total net assets of $47,741,592, after deducting all liabilities, including funded debt, which are equal to over $950 a share of preferred stock to be presently outstanding. Inventories of oil are carried at or below current market prices.

Average annual consolidated net earnings after all deductions for interest, depreciation, depletion and Federal taxes for the five years ended December 31, 1926, were $2,423,056 or over eight times the dividend requirements of the $5,000,000 6 per cent cumulative preferred stock to be presently outstanding. In no one of these years were such earnings less than five times these dividend requirements. Net earnings for 1926 were $3,358,889 or over 11 times such requirements.

The consolidated balance sheet shows total assets of $38,839,354, comparing with $29,465,258 on December 31, 1925. Current assets were $12,451,120 and current liabilities $1,140,652, as contrasted with $11,836,782 and $1,140,814, respectively, at the end of the previous year.

Producers & Refiners

The report of the Producers & Refiners Corp. for the year ended December 31, 1926, shows profit of $2,308,699 after depreciation, interest, etc., but before depletion and extraordinary charges, comparing with $1,235,797 in 1925.

National Supply

The report of the National Supply Co. of Delaware and subsidiaries for the quarter ended March 31, 1927, shows net income of $1,324,487 after expenses, Federal taxes, etc., equivalent after allowing for dividend requirements on 7 per cent preferred stock to $4.51 a share (par $50) earned on outstanding 265,900 shares of common stock.

Shreveport Refiners Lower Their Gravity From 58-60 to 56-58

SHREVEPORT, La., May 23.—Coincident with the rapidly advancing natural gasoline prices all refiners in the Shreveport district Tuesday will begin cutting only 56-58 U. S. Motor gasoline in place of the customary 58-60 product. This will mean a reduction in demand of natural gasoline here amounting to approximately 7 or 8 per cent, but refiners explain that it is not because of the higher natural market that they are cutting down on the gravity of their gasoline, but rather because from now on during the summer months the lower gravity product will be as good if not more practical motor fuel.

Although lowering the gravity of their gasoline, refiners are not figuring on any corresponding change in their market prices and announce they will continue to quote the same price Tuesday for the new 56-58 U. S. Motor gasoline as they have been getting for their 58-60 gasoline Monday. The latter product has been strong at 6¾ cents. Toward the last of the week resale agents were able to obtain material at 6½ cents, but Monday this apparently had been cleaned up. The lowering of gasoline gravity will be of particular advantage to North Louisiana refiners, who, operating on a low gravity crude, have required a considerable quantity of natural gasoline to build up a U. S. Motor gasoline to 58-60 gravity specifications. This is the first time that by mutual agreement the cutting of 58-60 gravity gasoline has been eliminated entirely.

Natural Gasolines Higher

Grade C natural gasoline enjoyed a sharp advance during the week and refiners at Shreveport were required to pay from 5⅝ to 5¾ cents, f.o.b. Monroe, La., Monday, several substantial orders being placed at those figures. Monroe manufacturers report that demand has been brisk during the week, but what effect the action of Shreveport refiners has remains to be seen.

So far Arkansas refiners as a unit have taken no steps to eliminate the 58-60 U. S. Motor gasoline, although refiners at Shreveport are anticipating such a move. However, the Arkansas gasoline market is somewhat stronger than here, with sellers there getting from 6⅞ to 7 cents easily. The entire refinery market in the North Louisiana and Arkansas district is strong, especially gasolines which are reflecting the steadily increasing seasonal demand.

Gas oil is strong, principally because of the tendency of refiners to store rather than dispose of their material at the prevailing market of 3 cents. Some gas oil still is moving at 2¾ cents from one refinery, but this is only to special customers. Refinery fuel is not freely offered on the open market by North Louisiana refiners, most of the production being taken by railroads, so prices continue strong and unchanged despite an inactive spot demand. Kerosene movements improved during the week, and this product is being held at 4½ to 4¾ cents, with 4½-cent material scarce.

NORTH AND WEST TEXAS

(Continued from Page 47)

Ricker drilled deeper from 2,414 feet and found to ppay at 2,410 feet, but proved to be a failure at 2,530 feet. Roxana Petroleum Corp.'s No. 26 Bowen swabbed 110 bbls. from sand at 2,100-70 feet.

WEST TEXAS
DAILY AVERAGE PRODUCTION
Week Ending May 21, 1927
Crane County

Company and lease—	No. Wells	Prod.
Church and others:		
University	1	125
Church & Weekly:		
University	1	1,210
Cromwell and others:		
University	1	865
Eastland Oil Co.:		
University	4	5,295
Gulf Prod. Co.:		
J. T. McElroy	10	7,050
Crier-McIlroy	6	2,270
Crier-McIlroy-A	4	2,040
State-Lasseter	7	2,650
Humble O. & R. Co.:		
University	8	8,206
Independent Oil & Gas:		
Hughes	1	8
University-A	1	1,370
McMan Oil & Gas Co.:		
Hughes	2	120
Magnolia Pet. Co.:		
University-Hardwick	1	20
University-O'Keefe	5	316
State-Lasseter	2	44
Magnolia Pet. Co. and others:		
University	4	150
Marland Oil Co.:		
Cowden-A	3	90
Cowden-B	1	130
Durham	3	10
Hughes-C	3	55
Hughes-D	6	910
Hughes-Gibbs	2	30
Prairie O. & G. Co.:		
University	6	388
State-Lasseter	1	225
Simms and Atlantic:		
University-A	7	4,705
University-B	1	85
University-C	1	760
University-D	1	1,175
Stidham & Thrasher:		
University	1	10
The Texas Company:		
King	9	333
Union Land-F	1	5
Tidal Oil Co.:		
University-B	2	100
University-C	1	42
University-E	1	56
University-F	4	4,855
Totals	112	45,703

Crockett County

Cromwell and others:		
Powell	5	148
Gulf Prod. Co.:		
Powell-A	4	50
Powell-D	1	70
J. K. Hughes:		
Powell-A	3	205
Powell-B	1	36
Humble O. & R. and Marland:		
Powell	9	782
Sorg	1	10
Powell-B	1	50
Republic Prod. Co.:		
Powell	2	245
Roxana Pet. Corp:		
Powell	1	19
Totals	28	1,495

Ector County

J. S. Cosden:		
Connell-A	1	20

Garza County

Emerald Oil Co.:		
J. M. Boren	1	6

Glasscock County

Texon-Marland:		
Settles	1	36

Howard County

Bristow & Merrick:		
A. J. Hooks	3	177
Comet Pet. Co.:		
H. R. Clay	1	10
Dixie Oil Co.:		
H. R. Clay	1	26
Gulf Prod. Co.:		
Chalk	1	20
Humble O. & R. Co.:		
Douthit	2	51
Lockhart & Co.:		
Chalk and Chalk-A	6	114
Lockhart & Carey:		
Scott	1	8
Midwest Exploration Co.:		
H. R. Clay	1	20
Magnolia Pet. Co.:		
Chalk	5	194
Hyman Chalk	2	30
Mary Chalk	4	188
Otis Chalk	7	212
Sarah Hyman	2	45
Sloan Chalk	1	47
O'Daniel	1	17
Kelly Chalk	1	10
Marland Oil Co.:		
Chalk	10	364
Chalk-A	7	326
H. R. Clay-A	5	349
H. R. Clay	5	160
Otis Chalk-B	1	64
Otis Chalk-C	1	43
Otis Chalk-D	1	49
Otis Chalk-E	1	200
H. R. Clay-B	1	42
Pure Oil Co.:		
Otis Chalk	1	199
Reeves & Apperman:		
H. R. Clay	2	193
Tidal Oil Co.:		
Otis Chalk	2	47
Total	76	3,205

Jones County

Atlantic Oil Prod. Co.:		
Howell	1	0
Midwest Oil Co.:		
Mason	3	523
Midwest Expl. Co.:		
Thornton	4	343
Phillips Pet. Co.:		
Tessie-Walling	4	470
Winters	2	376
R. M. Beasley	1	92
J. C. Mason	1	174
Totals	16	1,978

Loving County

Lockhart & Co.:		
Allen	1	15

Mitchell County

Atlantic Oil Prod. Co.:		
Womack	8	460
California Co.:		
All leases	84	2,709
F. J. Carey and others:		
E. Morrison	1	14
Eastland Oil Co:		
All leases	9	330
Magnolia Pet. Co.:		
All leases	19	603
Tidal Oil Co.:		
All leases	2	19
Totals	124	4,135

Pecos County

Mid-Kansas O. & G. Co.:		
Yates-A	4	5,745
Yates-B	1	7,327
Yates-C	1	3,891
Texon Oil & Land Co.:		
Yates	1	5
Totals	7	16,968

Reagan County

Big Lake Oil Co.:		
University	107	19,517
Texon Oil & Land Co.:		
University	74	7,360
Totals	181	26,877

Scurry County

Northwest Oil Co.:		
All leases	5	19

Upton County

Amerada Pet. Corp.:		
Hughes	5	381
Atlantic O. P. Co.:		
Sherk	1	35
Dixie Oil Co.:		
Burleson	17	3,088
Hughes	10	322
Gulf Prod. Co.:		
Baker	1	5
Baker-B	2	50
Estep	2	225
Hughes	4	120
Lane-C	1	220
J. T. McElroy-B	1	115
Sherk	1	60
Humble Oil & Ref. Co.:		
Burleson	4	81
Ricker	3	150
Independent O. & G. Co.:		
Burleson	5	80
Taylor	10	407
Wooley	10	698
McMan Oil & Gas Co.:		
Baker	1	60
Marland Oil Co.:		
Baker-A	1	29
Benton Land	1	0
Burleson	31	855
Burleson-A	3	8
Burleson-B	1	8
Estep	8	770
Hughes-B	1	0
Keith	3	220
Sanger	20	545
Shirley	4	465
Powell	4	300
Shirley-A	1	15
Gibbs	2	200
Prairie Oil & Gas Co.:		
Lane	4	412
Allie Lane	1	425
Republic Prod. Co.:		
Baker	5	61
Rio Grande Oil Co.:		
Estep	1	0
Roxana Pet. Corp.:		
Bowen	17	3,290
Estep	3	83
Hughes	10	506
Simms Oil Co.:		
Shirley	3	114
Sun Oil Co.:		
Burleson & Baker	10	194
The Texas Company:		
Burleson	4	52
King	12	556
Texon O. & L. Co.:		
Sherk	1	25
T. P. Coal & Oil Co.:		
Sherk	4	171
Lane-A	6	2,775
Lane-B	1	45
Wentz Oil Corp.:		
Sherk	3	165
Totals	243	18,387

Winkler County

Southern Crude Oil Co.:		
Hendricks-A	1	340
Hendricks-C	1	365
Gulf Prod. Co.:		
Hendricks	1	....
Independent O. & G. Co.:		
Hendricks	1	60
Totals	4	765

ENGINEERS ASSOCIATION CONVENTION IN TULSA

Several Mid-Continent oil companies are co-operating in the business program and entertainment features for the Thirteenth annual convention of the American Association of Engineers to be held in Tulsa June 6, 7 and 8.

Dr. Gustav Egloff, of the Universal Oil Products Co., Chicago, will speak on "Motor Fuels," at the Wednesday morning session. Tuesday afternoon an inspection trip will be made through the West Tulsa refinery of the Mid-Continent Petroleum Corp. Col. P. J. Hurley, president of the Gilliland Oil Co., Tulsa, will deliver the principal speech at the banquet Wednesday night at which James G. Veasey, chief counsel of the Carter Oil Co., will preside as toastmaster.

Those attending the convention will be guests of the Skelly Oil Co. at a musicale and dance Tuesday evening in the Crystal ballroom of the Mayo Hotel.

GEOLOGISTS MEET IN TULSA

The executive committee of the American Association of Petroleum Geologists held a business meeting at Tulsa, Okla., on May 20. All members of the committee were present except Alex. McCoy of California, who was detained on account of family illness. G. Clark Gester, president of the association, Luther White, John L. Rich and David Donoghue attended the session.

7-10 of a Cent Per Well Per Day

That Is What One Oklahoma Company Is Making on Its Oil From 1,833 Wells at the Present Market Price

By James McIntyre

The Texas and Oklahoma production reports for the first quarter of 1927 are published elsewhere in this issue of The Oil and Gas Journal. The reports for the last quarter of 1926 were published in the issues of February 24 and March 3. Comparisons of the reports for the two quarters develop very interesting facts.

About the middle of the last quarter of 1926 the first reduction in the market price of crude was made and at the same time a change in the price differential based on gravity. The cut in price and the closing of the price gap between grades of oil has continued. The higher grades of crude suffered most.

Whether or not we have reached bottom prices is not known. As to this much depends upon the attitude of the producers themselves.

Texans Hit Two Ways

The production of Texas in the first quarter of 1927 was lass than it was in the last quarter of 1926, so that Texas oil operators as a whole were hit two ways. They produced less and they were paid less for what they did bring to the surface. In Oklahoma the production increased in the first quarter of this year and the companies fortunate enough to be located in the flush pools which caused the increase in production did not suffer, as they can show both more oil and more money than they did in the previous quarter.

These companies, most of which have production in the old settled fields, own many properties which were making money last fall, but which did little better than to break even in the first quarter of this year and which now, perhaps, are actually not paying enough to meet lifting charges. But their profit on their flush production has more than taken care of their financial needs.

The "Back Logs of the Industry"

How is it with the many companies that are operating outside of Seminole and other fields where the average production per well is sufficient to permit the wells to still yield a profit?

In order to show what effect price cuts and differential changes have made in the affairs of the companies operating exclusively in old fields, the writer has picked an organization that is typical. It is one of the most conservatively administered of the smaller oil companies. It is a $2,500,000 company that has operated in the Oklahoma field for many years.

This organization had been increasing its production by the use of compressed air and gas applied to the sands on some of its largest properties. It has 1,833 oil producing wells in Oklahoma at the present time.

In the last quarter of 1926 it produced 63,418.15 bbls. upon which a value of $118,624.25 was placed, or an average of $1.87 per barrel. In the first quarter of 1927 it increased its production to 65,298.53 bbls., but because the average price of the crude it produced had fallen to $1.56 per barrel, its income from production fell to $102,018.90. The company showed an increase of 1,881 bbls. in production but the value of its total crude output was $16,605 less than in the previous quarter.

Very Slim Pickings

The company had 1,833 oil wells in Oklahoma in the first quarter of this year. The wells averaged .039 bbl. per day (about 16.4 gallons) and at the average market price the company was given a return of 60.84 cents per day per well in oil production. At present the company has a net daily production of 678 bbls. from 1,833 wells or .037 bbl. per day per well, and gets an average of $1.22 per barrel for its oil which gives it an average return of 45.1 cents per day per well. Its lifting cost per barrel is $1.20, counting field charges, administration, depletion and depreciation. Thus it will be seen that the company is able to make a profit of 2 cents per day per barrel, or 75-100 of a cent per well. A further 3-cent reduction in price would put the company's crude oil production account "in the red."

This company is better off than many others in the old fields of the country. It is actually making money on its oil. It is making $13.56 per day, and remember it is a $2,500,000 company! Some of its good field men are making more than that.

Another well-administered company operating exclusively in the shallow sands of Rogers County on properties some of them 20 years old was getting $1.90 for its production as an average for the last three months of 1926 and $1.55 in the first quarter of 1927, and $1.22 now. Its production in the first quarter from its hundreds of little strippers increased 446 bbls. over the previous quarter but its oil income was $6,028 less.

The Big Producers

The production of the 20 leading producers in Oklahoma in the first quarter of 1926 is given on this page. Their total net production was 34,551,628 bbls. The Carter Oil Company leads the list with a net crude output of 4,140,542 bbls. on which a value of $7,402,628 is placed, or an average of $1.79 per barrel. The Sinclair Oil & Gas Co., is second with a production of 3,402,519 bbls. net. The Gypsy Oil Co. is third with 3,076,784 bbls., net. All three have been large producers in the Seminole Field. The Carter Oil Co. which was seventh in production among the companies in the State last year jumped to first place because of the immense output of its Seminole properties. It is still the leader by a large margin.

Other companies that have averaged over 10,000 bbls. a day in the first quarter were the Prairie, Magnolia, Amerada, Pure, Mid-Continent, Comar, Tidal-Osage, Barnsdall, Indian Territory Illuminating, Phillips and Texas. Thomas B. Slick is the largest individual oil producer in the State.

Some Fortunate Ones

Eleven of the 20 Oklahoma leaders produced in the the first quarter of this year 6,550,303 bbls. in excess of their production in the previous quarter, but the total value of their production increased only $4,067,529.

If we divide the increase in value by the increase in production we find that it represents about 60 cents per barrel. This does not work out in individual cases as one of the very largest producers in the list shows an increase of 2,351,948 bbls. in production and an increase of $3,648,564 in market value, indicating a value of $1.55 per barrel on the increased output. The fact that the average for 11 companies is only 60 cents as against $1.55 in an individual case emphasizes the direct loss suffered by some of the big companies in the list not so fortunate as to show an increase in production to offset the effect of the market price cuts.

Texas Production Fell Off

The gross production report for the State of Texas for the first quarter of 1927 shows a total of 51,078,427 bbls. which is given a value of $75,633,853. The report shows a decrease of 2,398,705 bbls. as compared with the reported production in the last quarter of 1926 and a falling off of $12,918,728 in the market value of the crude. This indicates a loss of over 14 per cent in income but only 4 per cent in production.

Twenty companies produced 35,016,052 bbls. in the 90-day period, leaving all the other companies who made reports a combined production of 16,062,375 bbls.

The Gulf Production Co. led all with a total of 5,333,582 bbls. gross. The Yount Lee Oil Co. was second with 4,169,962 bbls. gross, and the Texas Company third with 3,022,818 bbls. gross. Other companies having an average of more than 10,000 bbls. a day for the first quarter were the Phillips Petroleum Co., Magnolia Humble, Big Lake, Prairie, Marland, Rio Bravo, Pure and Continental.

Twenty Leading Oil Producers in Oklahoma First Quarter of 1927

(Net Production)	Bbls.
Carter Oil Co.	4,140,542
Sinclair Oil & Gas Co.	3,402,519
Gypsy Oil Co.	3,076,784
Prairie Oil & Gas Co.	2,849,727
Magnolia Petroleum Co.	2,405,809
Amerada Petroleum Corp.	2,182,057
Pure Oil Co.	2,059,254
Mid-Continent Petroleum Co.	1,849,705
Comar Oil Co.	1,834,389
Tidal-Osage Oil Co.	1,503,486
Barnsdall Oil Co.	1,445,521
Indian Territory Illuminating Oil Co.	1,284,780
Phillips Petroleum Co.	1,248,106
The Texas Company	976,173
Roxana Petroleum Corp.	884,444
T. B. Slick	777,138
Kewanee Oil & Gas Co.	746,264
Independent Oil & Gas Co.	679,878
Marland Oil Co.	678,791
Skelly Oil Co.	526,261
Total 20 companies	34,551,628
Total all other companies and all royalty interests	26,712,386
	61,264,014

Twenty Leading Oil Producers in Texas First Quarter of 1927 (Gross Production)

	Bbls.
Gulf Production Co.	5,333,582
Yount-Lee Oil Co.	4,169,962
The Texas Company	3,022,818
Phillips Petroleum Co.	3,189,861
Magnolia Petroleum Co.	2,960,421
Humble Oil & Refining Co.	2,596,457
Big Lake Oil Co.	2,018,382
Prairie Oil & Gas Co.	1,629,326
Marland Oil Co. of Texas	1,608,526
Rio Bravo Oil Co.	1,579,034
Pure Oil Co.	984,464
Continental Oil Co.	925,276
Group 1 Oil Co.	727,405
Skelly Oil Co.	710,734
Roxana Petroleum Corp.	698,873
Republic Production Co.	617,375
Empire Gas & Fuel Co.	584,548
McMan Oil & Gas Co.	578,537
Simms Oil Co.	542,085
Roeser & Pendleton	538,386
Total 20 companies	35,016,052
Total all other companies	16,062,375
	51,078,427

NATIONAL SCOUTS CONVENTION AT DALLAS HEARS J. EDGAR PEW

DALLAS, Tex., May 24.—W. N. ("Buddy") O'Roark, of Standard Oil Co. of Louisiana, Shreveport, was elected president of the National Oil Scouts Association for the 1927-28 term at the business meeting Tuesday morning. John G. Pew, president of the Sun Oil Co., Dallas, was elected first vice president; Ed. B. Dilley, Atlantic Oil Producing Co., San Angelo, Tex., second vice president; John H. Langston, Sun Oil Co., Dallas, secretary-treasurer and Ford Turner of the Pure Oil Co., San Antonio, Tex., chairman of the executive committee.

The business meeting was exceptionally well attended, more than 100 scouts being in attendance. The remaining technical papers were read and were well received. The executive committee will meet in Dallas next March to determine the next convention city. Tuesday afternoon the scouts engaged in a low medal golf tournament at Cedar Crest Country Club while the ladies were entertained with a bridge tea. An informal dinner dance at the Baker Hotel Tuesday night completed the program.

There were 189 scouts from Oklahoma, Texas, Arkansas and Louisiana registered at the Jefferson Hotel, Dallas, Monday, for the convention. Mayor R. E. Burt of Dallas opened the convention with an address of welcome and was followed by J. Edgar Pew, former president of the American Petroleum Institute and president of the Sun Oil Co., who discussed the present problem of overproduction in the industry.

"The only honest solution is an absolute standy-by in the industry, in co-operating with the conservation officers of the various states," Mr. Pew said. "We must not waste gas in getting out the oil. We must get gas back into circulation in the ground if we wish to conserve our fields and cut down peak production."

Mr. Pew expressed doubt that any help could be expected through voluntary agreements among the producers because selfish interests prevent co-operation. He contrasted the work of the present-day scout with that of the scout of 25 years ago.

"Then the scout walked 25 miles a day, hid under a derrick all night, and had to whip the bully of the drilling crew if he was discovered. Today he covers as much as 200 miles or more in a day and gets more information for his company as a result."

Mr. Pew charged the scouts with considerable responsibility when he reminded them that often the scout is the only representative of his company and the oil industry in a community and that the public's opinion is based on the impression the scout makes.

The afternoon session was devoted to an address by Carl Young, director of standardization of the American Petroleum Institute, and to especially prepared papers read by members of the association. About a dozen of these papers were read and three were carried over to the Tuesday morning session.

While the Monday afternoon meeting was in progress the wives of members were entertained at a theater party given at the Palace Theater. The fourth annual convention banquet was held on the roof garden of the Jefferson Hotel Monday night and was attended by many wives of members. Some high-class professional dancers and singers provided the entertainment.

CORSICANA LINE LOOP

HOUSTON, Tex., May 24.—The Texas Pipe Line Co., a subsidiary of The Texas Company is laying a 25-mile loop in its trunk line between Corsicana and Riga Springs, near Waxahachie, Tex.

Research and Educational Program

Secretary Bourque Reports on Progress Attained by Association of Natural Gasoline Manufacturers During Year

By A. V. Bourque*
Secretary, Association of Natural Gasoline Manufacturers

The research and educational program of the Association of Natural Gasoline Manufacturers is the realization of the desire of many of our members to know more of the function and the true value of natural gasoline when used as a blending material with motor fuel. The manufacturers had a well-defined opinion that it was of great value but this opinion was based mostly on the fact that large quantities were used by refiners rather than on any positive knowledge of the merits of their product.

Early in 1926 members of our organization began to talk about undertaking a research campaign for ascertaining definitely just what the value of their product is. The desire became so strong the program committee for last year's convention decided to place the subject on the program and Drs. E. H. Leslie and G. G. Brown, professors of chemical engineering, University of Michigan, who had made enviable reputations as authorities on motor fuels, were invited to prepare a paper. Doctor Brown appeared and read a paper entitled "Relations of Volatility to Acceleration and Anti-knock Qualities of Natural Gasoline."

Work of Committees

So wide was the field opened by Doctor Brown and so favorably was the paper received the directors of the association decided the time was ripe to initiate the movement to carry on a research program for a year at least. President Peck appointed a committee, H. A. Trower, chairman, to raise the necessary funds, and a second committee, D. E. Buchman, chairman, to carry out the educational program. In a remarkably short time about $39,000 was pledged and paid and with that fund the committees entered into a contract with Doctors Leslie and Brown to conduct a campaign of research on natural gasoline beginning July 1, 1926 and ending June 30, 1927.

In addition to the services of Doctors Leslie and Brown, the contract called for the employment of other men as needed, as well as the purchase and installation of new equipment necessary.

Because Doctor Leslie's time was divided between this and other commercial research, the work of conducting the research for our association fell largely on the shoulders of Doctor Brown; in fact Doctor Brown has been in complete charge for many months.

Welcomed by University

The University of Michigan welcomed the proposal of our association to conduct its research through that institution as the following letter from C. C. Little, president of the university, will show:

My dear Mr. Bourque:

It is a great pleasure to write you expressing the formal but no less sincere thanks of the regents of the University of Michigan for the co-operation which you are extending through the gift to this university of $3,250 for research in the subject of natural gasoline. At their last meeting our board of regents accepted your proffer in accordance with its terms and we are prepared to receive and apply the money accordingly.

The unparalleled growth of the automobile industry, the extent to which automobiles are used, the enormous amount of capital involved (not only in the industry itself but in the building and maintenance of highways for automobile traffic), and the probable limited supply of gasoline fuel (in this country at least) all give to the subject of gasoline fuel a vast importance at this time, in some aspects perhaps unrivaled by any other industrial problem. Further, the extent of the automobile industry in Michigan, and the close relationship of the University of Michigan to this industry, make it seem eminently fitting that this university should be selected as the center for the proposed investigation.

The establishment of our Department of Engineering Research, at the suggestion of the industries of Michigan, and with their fostering assistance, adds additional significance to the selection of the University of Michigan by you for the proposed research.

It is understood by the regents in their acceptance that the form of publication of the results is to have the approval of the university.

Cordially and sincerely yours,
(Signed) C. C. LITTLE.

Note: The $3,250 referred to by Doctor Little covered the cost of the four Fellows' services for the school year 1926 to 1927, a period of about 10 months.

Research Initiated

The research work started off in fine shape. Doctor Brown immediately put his force to work and in a short time papers were presented at various meetings and progress reports were made available, all of which you have received through the mail. Doctor Brown's first appearance following our meeting last May was at the convention of the Michigan Independent Oil Men's Association at Mackinaw Island last July where he talked to a large number of interested jobbers. In August he appeared on the program of the Wisconsin Independent Oil Men's convention at Waupace where, for the better part of two days he expounded the gospel of natural gasoline.

Then came the meeting at Atlantic City in October, the annual convention of the National Petroleum Marketers Association. There is no doubt that the value of natural gasoline was impressed on the minds of those jobbers who heard Doctor Brown and witnessed the experiments conducted by him at that meeting. In addition to a splendid paper "Fuel Volatility, Engine Performance and Natural Gasoline," Doctor Brown conducted experiments with a high-compression motor using motor fuels which had been brought to the convention by various jobbers throughout the country. Tests were made with these fuels in their original state and later tests were made after natural gasoline was added in varying quantities. In no single instance did the addition of natural gasoline fail to improve the performance of the motor. Not only were the jobbers impressed with the demonstration but they were of great interest to the many natural gasoline men present. These demonstrations were worth thousands of dollars to the natural gasoline industry.

Doctor Brown's Address

The American Oil Men's Association held its annual meeting at Chicago in November. Doctor Brown was the principal speaker. His address was of 35 minutes duration, but the large crowd kept him on his feet until 5 o'clock when his voice practically gave out. Like the other meetings much interest was manifested and a very intelligent discussion was provoked.

The American Petroleum Institute held its annual meeting last December at Tulsa and Doctor Brown was one of the speakers on the motor fuel division of the program. It was Doctor Brown's first appearance before the technichians of the petroleum industry and his "Natural Gasoline in Motor Fuel" was well received. The Western Petroleum Refiners Association invited Dr. Brown to address refinery executives at its annual meeting in March, 1927, but Doctor Brown was unable to appear. He has been invited to appear on several other state jobbers organization's programs but it was impossible to arrange his work so he could accept. Doctor Brown attended several meetings of the American Chemical Society and the Society of Automotive Engineers the past year and has taken part in the motor fuel discussions, "telling the world" the merits of natural gasoline.

Results Extremely Valuable

I think I speak for the committee when I say the results of Doctor Brown's study and experiments have been extremely valuable to the natural gasoline industry. His work has been free from bias and prejudice and he has made a splendid impression on the refining and jobbing branches of the petroleum industry.

Through the influence of Fred Foster, of the firm of Foster-Hamilton-Ryan advertising agency, who has placed our advertising, Tulsa flyers were induced to experiment with natural gasoline. Doctor Brown witnessed some of these trial flights and wrote an opinion concerning them and natural gasoline as an aviation fuel, which opinion has been printed in many of the motor and aeronautical magazines.

The educational committee planned to start a series of educational articles in the form of paid advertising in the various oil journals of this country. This educational campaign was begun in January, page ads being carried every other week in The Oil and Gas Journal, the National Petroleum News and the Petroleum Age; monthly advertisements appeared in the Refiners and Natural Gasoline Manufacturer, the Filling Station and Petroleum Marketer, and the Petroleum World. It has been the aim of the committee to keep this educational advertising on a high plane, to emphasize salient facts about natural gasoline and to keep the advertisements free from all offense. Reprints of Doctor Brown's papers and of the advertisements have been made and no less than 125 copies of each of Doctor Brown's papers have been distributed through the mails in response to inquiries as the direct result of trade journal advertising. Thousands of copies of Doctor Brown's papers have been distributed to the industry through the association's mailing list. So much for that part of the educational program.

Financial Report

Earlier in this report I mentioned the fact that approximately $39,000 had been subscribed to the fund. The actual contributions were, $39,148.64, from 54 doners, 39 of which were natural gasoline manufacturers; 14 were equipment manufacturers, and one was a refiner, not a member of this association. In the list of natural gasoline manufacturers who contributed to the fund, there were two non-members. The committee wishes to take this opportunity to express its appreciation to those who by their contributions made the research work possible.

To the sum of $39,148.64 was added, 133.33, interest on a portion of this fund, which was placed in a savings account, making a total of moneys received, $39,281.97. Expenditures to date amount to, $28,421.39, leaving a balance at the close of business, May 23, of $10,860.58.

These expenditures are divided as follows:

To apply on Research contract	$19,450.00
Cost of gasoline, containers, freight and express	1,143.69
Traveling expense	2,742.54
Publicity expense	4,950.07
Return of over-subscription	40.09
Total	$28,427.39

There is still approximately $3,000 due on the research contract, the magazine publicity being paid up to date.

It is my opinion that the results accomplished to date and those which will be accomplished in the future, are well worth our time, effort and money, spent in this educational campaign.

Recommendations

In concluding this report I wish to emphasize two things, one, the value of the work to date and the other, the interest in blending natural gasoline with U. S. Motor which has and is being shown by the jobbers. My position has kept me very close to the work being done by Doctor Brown as well as seeing tangible results from the educational advertising campaign. I believe it would be a grave mistake to discontinue the research at the close of the fiscal year, June 30. A tremendous amount of work has been done in the past year but there is still a great deal to be accomplished. In addition to carrying on along the lines in which Doctor Brown has worked for a year there is still the matter of crankcase dilution, carbon deposits, and gassing in the carburetor. It has been impossible to reach those points this year but a great deal of work can be accomplished if another year is devoted to the research end of the program.

I have spoken of the jobbers' interest in natural gasoline. Doctor Brown's papers have built up a real desire on the part of many jobbers for information on how to blend, the proper proportion of natural gasoline and U. S. Motor fuel, etc., and a number have requested plans for storage. The committee, as individual companies, has been loath to go to the jobbers with their product but it recognizes their desire to this extent that it suggests to the board of directors that the matter be given careful study and consideration from every viewpoint with the idea of laying down a general policy on this question.

In view of the large number of letters from jobbers requesting information on blending I believe it would be well to have the technical committee to write a pamphlet on blending, subject to the approval of the board of directors, which could be distributed from the secretary's office.

The research work for the year 1927-28, will not cost within $10,000 or $15,000 of what it did last year. We have practically all the equipment we will need and the work will not require as much of the time of the men as it has in the past.

I move this matter be referred to the board of directors for its consideration, the carrying on of its research program, and, subject to favorable action by the board, that the research of educational committee secure an estimate of the cost of another year's program from Doctor Brown, and the industry be canvassed for the necessary funds.

*Before Association of Natural Gasoline Manufacturers, Tulsa, Okla., May 24-26.

DEATH OF IVAN L. TILDEN

SAN ANTONIO, Tex., May 19.—Ivan L. Tilden, for the past four years head of the land and leasing department of the Magnolia Petroleum Co. in the Southwest Texas field, died yesterday. He had been in the service of the Magnolia company 10 years, and previously had been connected with the industry in various fields in the Southwest for 15 years. Mr. Tilden was born in Cumberland, Ohio, where his mother, two sisters and one brother reside. He was a brother of V. D. Tilden of the Williamsport Wire Rope Co., Tulsa, and D. F. Tilden, with W. R. Ramsey, oil producer, Oklahoma City. He leaves a widow. The funeral and burial services were held in San Antonio.

PHILLIPS PETROLEUM CO. BUYS OKLAHOMA NATURAL

(Continued from Page 39)

miles of main transmission and field lines, 19 compressor stations and 6 gasoline recovery plants. In 1926 gas sales aggregated 37,000,000,000 cubic feet. Proceeds of the bonds will be used to pay for the Dallas Gas Corp. and for acquisition of additional properties. The company is completing an 18-inch trunk line from its system at Wichita Falls, Tex., to the Panhandle gas field in northwestern Texas, which is generally believed to be the largest gas field in the United States.

MODERN GREASE GUN SAID TO BE BEST

(Continued from Page 172)

for the lever type of grease gun, manufacturers are also bringing out indicating devices which can be placed on equipment now in use at a very small expense.

Modern Dispensers

Recent development in grease dispensers have done away with manual operation, compressed air being used. There are three general classifications:

1. The rotary meter type, in which the adjustment is taken care of either by a direct control of the size of the measuring chamber, or by means of a so-called "by-pass."

2. The plunger or cylinder type, in which the adjustment is controlled by the length of the piston stroke. Here, again, we have both the single and double cylinder models. In the case of the double cylinder, one chamber is filling while the other is discharging.

3. The air displacement type, in which a definite amount of air, registered on a sensitive air gauge, displaces a definite amount of grease.

In general, we may state that the manufacturers are working to satisfy the requirements for grease dispensing devices that will deliver accurately and consistently a definite amount of grease, and that the amount delivered shall be automatically shown on an indicator or gauge.

Many problems remain to be dealt with. Shall grease be sold by liquid measure or by avoirdupois weight? If it is sold by weight, the equipment must be adjusted whenever a change is made from one grade of grease to another.

You in the East have extreme conditions of temperature to deal with which we do not have to combat on the coast.

CALIFORNIA GASOLINE INDUSTRY CHANGING

(Continued from Page 173)

gallon class, and in all there are about 150 producing plants.

Future Outlook

Production of natural gasoline in California has been increased during the past year at a considerable higher rate than the consumption. Reported amount in storage has been gradually building up until it is beginning to approach a month's normal supply, while a year ago it only totaled an amount approximately equaling five days' consumption. With several fair sized plants under construction, the situation is becoming more serious. The only source of relief seems to be through a drastic program of curtailment in production. Some of the larger companies have already started this. The way in which this curtailment is being brought about is through controlled operation as regards the quality of the gasoline. A smaller total gallonage of a far more stable product is the ideal towards which the industry is working. If it is necessary to store large quantities of natural gasoline, then the quality of the product must be such that it can be stored economically. It has been estimated that the curtailment in production by this method would in itself be sufficient to bring about an economic balance between output and consumption.

Gasoline Association

A recent development which bids fair to have a more and more far reaching influence in the California industry is the organization of men vitally interested in natural gasoline, which had its inception a little over a year ago and which is known as the California Natural Gasoline Association. Being, primarily, an organization of individuals, its work is chiefly educational. Good fellowship among the members is going a long way toward breaking down the old ideas of secrecy. The ideal of the founders was to provide a common meeting ground where the men in the industry could freely discuss their problems and co-operate in their solution. It was their belief that most of these problems are of common interest to the industry as a whole and that its advancement would be furthered by such an interchange of ideas.

In conclusion, it may be said that the California natural gasoline industry has a tendency to exchange information and standardize practice as far as possible. More than ever before, changes are taking place on the basis of established principles, a friendly and helpful attitude being shown in the working out of the common problems of the industry. The secret of the advancement made by the California industry has been in the general willingness to experiment and to exchange ideas.

EXCESS PRODUCTION 150,000 BARRELS DAILY

(Continued from Page 41)

of such storage, had they stored this production and kept the market price of crude at the same level as when the field was discovered.

Business of Storing Oil

In this connection, point is given to the proposition reported being discussed by financial interests in New York that it might be a profitable investment if the industry as a whole or a corporation formed for the purpose, would enter the business of storing crude oil in time of overproduction and holding this oil until there was a demand for it. Had such a plan been followed in the Seminole Field, there seems little doubt but that a substantial profit would have accrued. Such a policy would act as a stabilizer for the entire industry, excess production being purchased in different fields and placed in steel storage until market conditions warranted the selling of this crude. Even the greatest optimist doubtless will admit the industry cannot expect to maintain production at the present level for any great length of time and that all the crude now being produced will be in great demand when the flush fields pass out of the picture.

A compilation of costs of operations in the Seminole area in Oklahoma with the amount received for Seminole production shows that operators in that field have made a profit of only $18,255,868.80 up to May 14. When it is considered the entire industry was penalized about $1,350,000 a day from November 1 last because of reduced crude oil prices, due, chiefly, to the flood from Seminole the $18,000,000 profit from Seminole production does not look so good. In addition to the $1,350,000 a day less producers received for their production than before crude prices were reduced, the refining industry suffered a loss of $200,000,000 in receipts from its products as compared to what it would have received had prices remained as they were November 1 last.

The following table gives a picture of the situation at Seminole from the time the field was discovered until May 14:

Investment

Drilling cost	$30,398,800.00
Acreage cost	5,000,000.00
Air installation cost (220 wells)	3,883,000.00
Tankage cost	4,676,000.00
Overhead (field supervision, insurance, bookkeeping, engineering, etc.)	350,000.00
Lifting cost of oil produced	6,101,081.00
	$50,408,881.00
Amount recovered by producers by sale of oil to date	$68,664,749.80
Expenditure to date	50,408,881.00
Profit to date	$18,255,868.80
Wells drilled to date	449
Producers	432
Dry holes	17
Total tankage built (bbls.)	9,815,000
Oil in storage from Seminole (bbls.)	6,060,575
Wells now drilling	448
Locations and rigs	104
Active operations	552

These operations will cost $68,400 drilling cost for each well and $17,650 each for air installation.

CURTAILMENT URGED IN FLUSH FIELDS

(Continued from Page 41)

and operated along present methods, will require as many separate camps, lease foremen, etc., all of which naturally will increase the operation and lifting costs in the section as a whole. If these companies would pool their interests and bring them all under one company's management, unnecessary wells could be eliminated and each section operated for at least 50 per cent less than under present methods.

Had this been accomplished in the early stages of the Seminole Pool, of which we will take for illustration twelve sections in Township 9, Range 6, viz: Sections 13-14-15-22-23-24-25-26-27-34-35 and 36, there could have been at least 140 wells eliminated. Estimating this number of wells at $60,000 each, would have meant a saving of approximately $8,500,000 to the operators, to say nothing of the possibility of eliminating crude price cuts which have resulted in a loss of approximately $2,000,000 a day to the operators of the country.

Some may say this plant cannot be adopted because they use different equipment than others in the area, but these things could be very easily standardized, which in the end would also mean a saving. There may be numerous other objections, but none that I can visualize which could not be ironed out to the satisfaction of all parties.

Complete Co-operation Needed.

In any event, whatever plan is worked out will require the complete co-operation of all concerned. In the past there have been a number of meetings held in an attempt to bring about curtailment of operations and production, but without success. I believe this has been due to the operators deeming it necessary to have an unanimous vote on any plan suggested, and I fear if this thought continues it will be very difficult to ever get any plan adopted that will meet with the approval of all, therefore, suggest that the operators bind themselves to a vote of two-thirds of those in attendance at any meeting in the future to adopt any policy which will ultimately work to the benefit of the industry as a whole.

I firmly believe that the industry needs an arbiter who should be connected with the American Petroleum Institute in an official capacity where he would have access to all records, and in whom authority should be vested to dictate the policy of the industry as a whole to prevent overproduction and disastrous depressions.

BIG AIRPLANE BOUGHT BY INDIANA COMPANY

A giant all-metal airplane, Stanolind, with a maximum speed of 110 miles per hour, and a capacity for eight passengers, not including the two pilots, has been completed for the Standard Oil Co. of Indiana. It is capable of carrying 4,000 pounds including oil and baggage. And has a gasoline capacity of 230 gallons.

Col. Robert W. Stewart, chairman of the board, who is interested in aviation and has had a great deal of experience in flying said:

"This airplane has been purchased primarily to furnish safe, fast and comfortable transportation when making long distance inspection trips to oil producing regions, division headquarters or outlying refineries. The Standard Oil Co. of Indiana is also very much interested in the encouragement of commercial aviation, since we believe this to be one of the coming forms of transportation in this country. The company has already outlined and put into effect an immense program of marking airway designations on the roofs of its warehouses to aid flyers."

THOSE IN ATTENDANCE AT THE SIXTH ANNUAL CONVENTION OF THE ASSATION

NATURAL GASOLINE MANUFACTURERS MEET

(Continued from Page 40)

tors were focusing too much attention on the absorption, distillation and condensing units of their plants in endeavoring to secure more economical construction and operation. He pointed out the need of investigations to bring about similar economies in the gathering system and compression plants.

Safety Measures

D. J. Wallace's paper on "The First Law of Nature," led the discussion of safety in plant operation. Devising means to secure the right mental attitude and co-operation from employes was stressed as an essential factor in reducing accidents and fires at plants. Ray Miller, head of the safety work of the Marland companies, explained a plan which has proved highly satisfactory at the company's Ponca City, Okla., refinery. A contest was staged between two labor gangs for three months and during the period, due to the interest created among the men, no accidents were reported from either gang.

Greater appreciation of the importance of each other's work will result in better co-operation between the field and offices of a natural gasoline company according to C. L. Swim, manager of the insurance department of the Skelly Oil Co., who read a paper on that subject. Mr. Swim said that it was absolutely necessary that the office force have a complete report of all field activities, pointing out that this information was required not only for company information but also was often required in data passed on to governmental and other outside agencies.

At the same time it was stressed that the office force should not take the time of field men in making reports which were not necessary. Dr. E. R. Lederer advised having the men in charge of the office reports visit the plants and vice versa for several days as one method in bringing about a better feeling and greater co-operation.

Tuesday Meetings

The report of the secretary and treasurer on Tuesday showed the favorable position of the association both with respect to membership and finances. Through consolidation several of the previous members had discontinued their membership but the new members exceeded these. Last year a large budget was set up for the research work along with the other operating expenses and as of the end of the fiscal year April 15, a substantial balance was shown and will be applied on a portion of this year's work.

Gas Testing

A summary of the work done by the gas testing committee was read by George P. Bunn, of the Phillips Petroleum Co. The paper dealt with the principal factors to be considered in a standardization program for the uniform testing and subsequent payment for the gas. A discussion followed in which it was pointed out that a plan of paying for the gas run based on the test adopted by the committee would have to take into consideration the difference in the operating efficiencies of the many plants and the quality of the gasoline considered as well as the volume extracted.

In many cases the actual volume of gasoline extracted in the commercial operation was more than that shown in the test and may run as high as 135 per cent of the theoretical production based on the test. This was partially discounted however in the explanation that much of the additional production shown on the commercial scale was eventually lost in storage and transportation so the test results were nearer the correct ultimate production than at first indicated.

Emby Kaye, chairman of the Outage committee, outlined the major causes for outages and showed where much of the loss claimed in outages can be eliminated. He said that the natural gasoline manufacturer is often made to stand the volume losses above normal because of insufficient or poorly constructed unloading facilities at the refineries. A method of gauging and taking the temperature of the car without removing the dome cover was outlined as the logical solution of the problem but in the discussion that followed, the principal objection to this was the hazard of opening the car without first relieving the pressure in compliance with the interstate commerce commission's ruling and then it would be difficult to take a representative sample for inspection. The refiner would be obligated to unload the car without an accurate check of the quality and this would not find favor with the purchasers.

Water Treatment

In the discussion that followed the paper on "Water Treatment" by F. B. Good, the possibilities of the use of zeolites for such work was briefly covered and as a closing remark S. C. Carney, chairman of the afternoon session said that many of the patented water softening compounds on the market were not beneficial and care should be taken in choosing a reliable source for the chemicals. He said that water softening problems require special attention and the ready-prepared softeners often either over treat the water and cause corrosion and are expensive, or are compounded to take care of conditions not existing at the particular plant where they are being used. The effect of distilled water was also discussed and its corrosive action attributed to the dissolved oxygen and carbon dioxide likely to be found in distilled water because of aeration.

In the outline of the factors on fire-prevention by E. T. Ingalls, manager of the Oklahoma Inspection Bureau, the more common hazards were well covered, but a new hazard was brought out in the discussion that followed. A slow chemical reaction between sulfurous bodies and iron oxide supported by a flow of air has been found to accumulate sufficient heat to ignite gasoline vapors. This was true particularly in fields where the sulphur content of the gasoline was high and the examples cited were towers or treating tanks in long use. The presence of aluminum was suggested as a hazard in the possibility of forming a thermite compound with iron oxide but except for the use of aluminum in special valves, there was little chance for this hazard to be general and rather than discourage the proper use of aluminum it was shown that good engineering practices coupled with the knowledge of the reactions between aluminum and sulphurous bodies could eliminate this hazard.

At the conclusion of the paper read by Doctor Lederer on lubrication, the question of carbon formation prompted a remark by a California manufacturer of lubricating oils in which he pointed out the higher carbon-forming properties of the California, Mid-Continent and Pennsylvania oils compared to the South Texas lubes. He said, however, that the amount is not an accurate index of quality since it had been found that a wide difference exists in the nature of the carbon formed, and as an example said that the California lubes produced a very porous carbon and was blown out of the exhaust instead of building up a hard cake as was found to be the case in the use of oils made from other crudes.

NATURAL GASOLINE SUPPLY MEN CONSIDER ALLIED ASSOCIATION

A meeting of supply men furnishing material and equipment to the natural gasoline industry was held Wednesday in Tulsa simultaneously with the annual convention of the Association of Natural Gasoline Manufacturers.

The meeting was held primarily for the purpose of organizing an allied association to take care of the entertainment features which have previously been handled by individual efforts. At this year's convention, a smoker and two luncheons were provided by a group of supply and manufacturing companies. The plan has been approved by the board of directors of the Association of Natural Gasoline Manufacturers.

James H. Satterwhite, sales manager of Westcott & Greis, was elected temporary chairman of the organization at the Wednesday meeting.

Mr. Satterwhite and Bill Cummings of Gas Engineering and Construction Co. were the moving spirits in the formation efforts, and an organization committee of four was elected to work with the temporary chairman in forming by-laws and offering for nomination 20 names to be voted upon for the election of ten directors. The committee will also provide a name for the organization. William G. Schleuter, of the Refinery Supply Co., Bill Cummings of the Gas Engineering & Construction Co., Forest Dunlop of the Bessemer Gas Engine Co. and D. W. McKay of the Hope Engineering & Supply Co. were named as members of the organization committee.

The name of Mr. Satterwhite has been repeatedly mentioned as the possible president of the organization which may be called the Natural Gasoline Supply Men's Association. According to present plans, the president of the natural gasoline manufacturers' association will be a member of the board of directors of the supply organization.

Companies contributing to entertainment fund for the Tulsa convention were: Atlas Supply Co., Continental Tank Car Co., The Refinery Supply Co., Westcott & Gries, Inc., Hope Engineering & Supply Co., C. & G. Cooper Co., Gas Engineering Construction Co., Refiners & Natural Gasoline Mfgs., General American Tank Car Corp., Tulsa Boiler & Machinery Co., Bessemer Gas Engine Co., Union Draft Gear Co., G. M. Davis Regulator Co., American Car & Foundry Co., Chaplin-Fulton Mfg. Co., The Oil and Gas Journal, Metric Metal Works, Magneto Ignition Corp., Acme Tank Car Co., C. J. Tagliabue Co., Smith Separator Co., Worthington Machinery Corp., National Petroleum News, Neilan, Schumacher & Co., North American Car Co., Taubman Supply Co., Pennsylvania Tank Car Co., Bruce MacBeth Gas Engine Co., and Ingersoll-Rand Co.

Lindbergh Carried 451 Gallons of "Gas" on Flight to Paris

Red Crown aviation gasoline refined at the Richmond, Calif. refinery of the Standard Oil Co. of California was used by Captain Lindbergh in his New York-Paris flight. The same brand of gasoline was used in his flight from California to New York a few days before the record flight.

The gasoline was shipped from California to New York in special drums. When Captain Lindbergh started the flight he had 451 gallons of gasoline. The exact amount used is said to have been 325 gallons. It was estimated that he would secure approximately ten miles to the gallon and consume ten gallons to the hour. On this basis he would have had sufficient motor fuel for 4,400 miles. The actual flying distance was 3,600 miles.

Mobiloil B of the Vacuum Oil Co., was the lubricant oil used. This was described as an extra heavy lub oil used in high temperature engines. Approximately four gallons of oil were required for the trip.

SPITZBERGEN COAL GASOLINE

A dispatch from Oslo says that after successful experiments, plans have been elaborated for the construction of a factory at Kings Bay, for the production of synthetic petrol and other byproducts from Spitzbergen coal.

E ASS ATION OF NATURAL GASOLINE MANUFACTURERS, TULSA, OKLA., MAY 24-26

UNIT OPERATION AS PLANNED AND WORKED OUT IN WYOMING

CASPER, Wyo., May 21.—Recently the President's advisory board for petroleum recommended a plan which considered taking an oil field and operating it as a unit instead of the usual method of each company or lease holder developing his own territory or leases.

The plan was brought to the attention of the oil firms in the West and three companies which control the Elk Basin Field in northern Wyoming agreed to give the plan a tryout. These three oil firms, the Ohio Oil Co., the Midwest Refining Co. and the Continental Oil Co., sent officials to a conference and an operating plan was drawn up whereby the Elk Basin Field will be operated by a joint representation of these three companies without regard to property lines, but looking to the conservation of the oil production and for the best interests of all concerned.

As the Midwest Refining Co. held the greater part of the productive area in Elk Basin, that company was given a half share of the production while the other two firms were accorded a fourth share each, thus making it a 50-25-25 per cent proposition. The Midwest owns a gas compressor plant at Elk Basin and while this plant has not been operating for several years, it was decided by the operating board to start work with this plant as the first step.

Producers From Three Horizons

The Elk Basin Field produces from three horizons, two sands of the Frontier formation, commonly referred to as the Wall Creeks, and a deeper sand known as the Lakota. The first two sands produce some gas and about 1,000 bbls. of oil daily, the third pay or Lakota sand produces gas only and this lower gas production is too dry to render a profit for gasoline production.

The two Frontier sands are found at an average depth of 1,200 feet and 1,450 feet, respectively, and the Lakota sand lies about 2,500 feet under the surface. At present there are 145 wells in the field and 8 of these are gas wells drilled to the Lakota sand for gas only which is sent through the Galitzin Natural Gas Co.'s line to Billings, Mont. The Galitzin Gas Co. is a subsidiary of the Ohio Oil Co.

The Lakota sand is known to produce gas only and is therefore not taken into consideration in the operation of the field under the unit system, but the Ohio Oil Co. will utilize the gas from this deep sand as before the unit system went into effect.

Plan of Operation

The plan of operation under this unit system is to have several key wells over the Elk Basin Field and take the casing-head gas from the wells producing from the first and second Frontier sands. After this gas is passed through the compressors, it will be sent down the key wells under pressure so as to drive the oil content of the sands away from the key wells and into the producing wells.

It will be readily seen that only through close co-operation can such a plan be followed, for as the input gas drives the production from the key well, the oil will naturally flow in all directions and would be very liable to find a channel to wells on other leases unless the field was controlled entirely by one firm or group.

The plan at Elk Basin appears to be to have the key wells located in different parts of the field according to the geology of the structure, and so located and apportioned that these wells will drive the oil in the sands to the largest groups of wells already drilled. It was also considered to have all the key wells located on the highest point of the structure and let the pressure work down the dip of the strata until it met the non-compressible water line, but this was abandoned for the present method.

It is also expected that by this plan, the input dry gas from the compressor plant will take up enough hydrocarbons in the oil sands to render a profitable amount of gasoline in the output gas flow.

If the unit plan proves successful, it will do away with competitive production and the attendant loss to the different producers thereby. The sponsors of the unit plan hope to see it work out so as to save the huge losses usually met with where many lease owners endeavor to obtain the greatest production in the least possible time and without considering the adjoining leaseholder or the future of the field.

How Salt Creek Is Operated

Most of the Salt Creek Field in Wyoming has been operated under a system similar to the new unit plan as proposed by the Government. Verner Z. Reed, one of the first men to vision the size of Salt Creek before development started on a large scale, gathered under the name of the Midwest Refining Co. the several firms that held leases in the central part of the field.

This became the nucleus for the present Midwest Refining Co., which is the largest subsidiary of the Standard Oil Co. of Indiana. Other purchases or operating contracts were made so that at present the Midwest Refining Co. controls all of the area that is productive in the first Wall Creek sand, all of the new Lakota sand area, the Sundance sand area below the Lakota and the greater part of the second Wall Creek area. As the Midwest's holding of the second Wall Creek area are all in the heart of the field and blocked solid, the company virtually controls this sand also, notwithstanding that many other firms have production around the edge of the field in the second Wall Creek sand. Except this production around the edge of the Midwest holdings and some shale wells, the Midwest Refining Co. controls all of the Salt Creek production.

This gives the Midwest Refining Co. the opportunity to show what a large oil field, operated by one firm as a unit, can produce. The results are obvious even to the most biased observer. Through this control of this great field, the Midwest Refining Co. has conserved the oil production at times when a great outflow would injure the market. At this time the Midwest Refining Co. has practically all of the Lakota sand wells shut in and is even cutting down on the regular production from the first and second Wall Creek sands. Last week the production was 49,080 bbls per day while a drop of 4,000 bbls. is noticeable due to the effort to curtail production in the fact of the overproduction of oil in the Mid-Continent fields.

Lengthens Life of Field

Through this unit control at Salt Creek, the life of the field has been estimated to have been lengthened at least 50 years and there is no doubt but had the central part of Salt Creek been operated by the many individuals and small companies that were merged by Verner Z. Reed and the Midwest Refining Co., the field would have been shortlived and a tremendous loss suffered in competitive drilling and production. Through the use of the electric power created at the great central plant, the cost of operation has been far below that of steam or even gas engines and without many of the usual troubles connected with these two forms of power.

It is also noticeable that the smaller companies are sold on the unit system as operated in the Salt Creek Field by the Midwest Refining Co. A few years ago when a lease on Section 36-40-79 was to expire and some outsiders made overtures to the state officials for a lease on this famous section, the small companies holding the original leases agreed to forego much of their oil rather than see the whole field gutted by line fighting and wild campaigns of production. The State of Wyoming is therefore receiving a royalty of 65 per cent from this square mile of field in order that no outside company could start wrecking the greatest oil field of the Rocky Mountain region.

CALIFORNIANS SHUT IN 83,000 BBLS. TO RELIEVE SITUATION

LOS ANGELES, Calif., May 21.—The movement started to stabilize conditions in the oil industry through limitation of crude oil production or possible restriction of refining operations is gaining momentum on the Pacific Coast, some corrective steps having already been undertaken through general mutual co-operation of both producers and refiners. Marketing conditions throughout this area have been exceptionally unstable during the past few years due primarily to excess production of crude oil which has resulted in an overproduction of gasoline. The recent price war caused by the aggressive policy of large operators to build up gallonage has emphasized the necessity of taking adequate steps to prevent a repetition of this situation which resulted in a reduction of 6 cents per gallon in gasoline within a period of 30 days with a consequent loss of several million dollars to marketing companies. The fallacy of marketing a product below cost soon became evident, however, and while no consultation or general meeting was held by distributors they welcomed the re-establishment of normal prices by the California Petroleum Corp. on May 3, 1927, and soon fell in line with a uniform schedule. This movement is one of the most important developments during the past 30 days as it remedied an unsound economic situation and has opened up an avenue of relief to producers in the town lot area at Seal Beach.

Substantial Curtailment

The realization that highly competitive marketing conditions and overproduction of crude oil were both contributing to the present general demoralization has resulted in a substantial curtailment of crude oil production in addition to the corrective measures already taken by marketing companies to stabilize refined oil prices. So far this has affected only five companies and two fields but may be extended to other areas if necessary to insure stabilized conditions. During the early part of May the Union Oil Co. shut in its Stearns property in the Fullerton Field simultaneous with a curtailment program inaugurated by the General Petroleum on offsetting acreage. The former shut in approximately 5,000 bbls. of refining crude per day and the latter about 2,000 bbls. The largest recent curtailment, however, was effected in the Ventura Avenue Field where the major companies commendably shut in an aggregate daily production of around 15,000 bbls. California now has approximately 83,050 bbls. of light and heavy oil shut in due to the inability of marketers to dispose of surplus production of crude and refined oils. The following is an itemized list of the approximate daily shut in production at the present time:

Shut-In Production

Field—	Prod. Bbls.
Coalinga	15,500
Kern River	7,500
Mount Poso	2,750
Midway-Sunset	8,300
Elk Hills	14,000
Lost Hills-Belridge	4,500
Santa Maria	6,500
Ventura Avenue	15,000
Fullerton	7,500
Coyote	1,500
Total	83,050

The above figures are very conservative and due allowance has been made for the settling in production of new wells shut in immediately upon completion. It has become universally customary for producers in the Mount Poso Field, particularly, to shut down new wells shortly after being finished due to the lack of pipe line facilities and low gravity oil produced.

Up to Seal Beach

The major producers on the Pacific Coast have not yet formulated any general policy with respect to the future curtailment of additional crude oil production and any action along this line will probably be held in abeyance pending developments in the town lot area at Seal Beach, which is being intensely developed at the present time and should result in a further increase in production before starting on the down grade. A superficial survey reveals possibilities for additional curtailment measures or unification of operations if deemed necessary. The Standard could shut in its daily production of around 10,000 bbls. in the West Coyote Field since it controls the entire productive area, provided the landowners could be induced to forego present royalty payments. This field is incidentally one of the Standard's most valuable reserves since it has a second untapped but proven sand which is being held for future use.

The Standard Oil Co. of California's electric lease in the townlot area of Huntington Beach. This field is one example of the difficulty of unifying field operations in California.

Unit Operations

Unit operation in all California fields is practically impossible due to the large number of independent producers and varied interests, although a few areas offer exceptional possibilities for some work along this line. Dominguez, which is controlled by the Union and Shell, comes about as close to unified operation as any field in the United States due to the splendid mutual co-operation of these companies which have employed the so-called Marietta process to advantage and are adhering to a gentleman's agreement which governs the amount of drilling and penetration to be taken in the oil sand. As a result of this manifestation of harmonious work, Dominguez will be heard from again at a later date, future development of the upper and lower sand, which up to the present time has not been called upon, being dependent on the return to normal conditions. Goleta and Mount Poso, which have only shown the results of limited operations up to date, do not require unification of drilling in as much as the acreage in these fields is all held in exceptionally large blocks and will therefore be developed as conditions warrant.

Ventura Avenue Is Good Ground

The Ventura Avenue Field could be readily adapted to unified operation of work since most of the present productive acreage is held in large blocks but due to the factors controlling this district it is not believed that any voluntary move along this line can be ex-

pected. The Associated and Shell have a nice reserve in this field but with the General Petroleum holdings sandwiched in between those of the other two principal operators, it would be a very difficult thing to arrive at an equitable basis of work. So far no general conservation measures have been undertaken in this field, although of course all operators make every effort to prevent undue waste or overproduction of natural gas.

It is the writer's opinion that those companies most vitally interested should get together in the near future and decide on a concrete basis of work which will guarantee maximum economic production per acre for the entire field. Until recently it has been a case of competitive drilling due to the usual necessary offsetting obligations and, while future drilling will not result in a continuance of this method, yet some definite policy should be worked out which will provide maximum production of crude and conservation of natural gas. Key wells drilled for the specific purpose of introducing dry gas into the oil sands under high pressure might prove advisable and, while some might object to the cost involved or the fact that some particular wells might derive more benefit than others this objection could be overcome by the creation of a central producing area with the production of all inside wells prorated between the companies involved. None of the more recent fields in southern California, such as Long Beach, Huntington, Torrance, Santa Fe Springs, Rosecrans, Dominguez and Seal Beach offer any possibility of unification as far as production is concerned due to the fact that each of these fields contains an intensely drilled town lot area which has been developed by a large number of independent operators or unit syndicates which would undoubtedly contest any attempt to centralize operations.

Would Stop Town Lot Drilling

While not particularly recommending unification of production in California the suggestion is offered that operators immediately force legislation or take adequate steps to prevent intensive town lot drilling in the future. It is this evil which has caused practically all of the industry's trouble in California during the past few years and history sometimes repeats itself. It is not necessary to go into any detail as to the advisability or methods of procedure as this subject has received considerable attention during the past few years. Regardless of the attitude of the major companies, some of which hold that a restriction of this character would stifle competition, one thing is certain and that is that the industry in California will never become stabilized until the town lot evil is removed or controlled. The major companies as a whole do not generally engage in town lot drilling and for this reason it is rather surprising that many of them should frown on any attempt to force this issue. The industry, of course, is trying to steer clear of any unnecessary legislative action but at the same time remedial legislation should be tolerated if it is constructive in character and not regulatory. The San Joaquin Valley, which contains most of California's future potential oil land, is rather sparsely settled and, while the town lot evil has not yet become a problem in that section conditions may change at any time. In any event, prepardness may perhaps be available. The power of the California State Mining Bureau is quite limited in scope, its principal activity being to compel a strict adherence to well-established drilling methods in order to protect mineral deposits.

NATURAL GASOLINE ADVANCE CONTINUES

(Continued from Page 42)

Continent refiner and at the same time would tend to encourage refiners to enlarge their plant operations in order to increase their gasoline output. Either or both developments would obviously quickly end any temporary price advantage.

The aim of Oklahoma and other Mid-Continent refiners at present apparently is to advance prices just enough to permit profitable operation and then await a general improvement in the statistical and price position of the entire industry before attempting any additional advances. A one-fourth to one-half cent advance over present prices for June business would be satisfactory to a majority of the Oklahoma refiners.

Other Products

With a steady or advancing market in gasolines, Oklahoma refiners were also inclined to be encouraged with the market trend in other products, especially fuel oils and gas oils. Substantial gas oil orders were placed during the past week at prices one-eighth to one-fourth cent above the prices paid by some of these same buyers earlier in the month. Inquiries show that buyers are willing to pay present prices for gas oil over an indefinite period. Practically all the business being placed, however, is for prompt shipment as the sellers are not willing to speculate on today's market.

Despite reports that all grades of fuel oil were being sold by outside refiners at prices under those prevailing in Group 3, the Oklahoma market remained firm. Many in the trade who are keeping in close touch with the fuel oil market expect a development similar to that experienced in gas oils.

Gas oil prices early in May slumped to a low of 2½ cents in Oklahoma. When the market reached 3 cents, several refiners stopped selling and others stopped at the 2¾-cent mark. This curtailed the supply of low priced material. At the same time the buyers, satisfied that prices had reached bottom, became active and the increased buying immediately resulted in partial price recovery.

When fuel oil went below the $1 mark at least two Oklahoma refiners got out of the market and the general attitude now is to store rather than give any further price concessions. The market has shown only minor changes for the past three weeks. There is very little fuel in Oklahoma which can be labeled "distress" as refiners generally are well taken care of by contracts and regular customers in the spot market. A further decline in prices, if it develops, will come from other refining areas.

Gasolines and Naphtha

The most important price changes in gasolines have been explained. Several refiners who advanced their U. S. Motor (58-60 437 endpoint) to 6¾ cents reported a steady movement at the new quotation. Other refiners reported a slow up in demand which they expect to be temporary.

Resale agents had little difficulty in buying at the 6½-cent price with a few refiners still quoting direct to the trade at that figure. When the Standard of Indiana reduced the gasoline tank wagon prices in its territory 2 cents on May 10 some short sales were made by marketers for delivery over the month. These marketers in most instances have not been able to cover these sales and should the market continue firm over the remainder of the month they will be forced to take losses.

Up to Tuesday very little June business had developed. As was the case in April for May delivery the sellers believe the June prices will be higher than in May. Marketers say they cannot interest the jobbers in purchases at the higher prices. Some June business probably will be placed before the end of the week at the 6½ or 6¾ cent figure. The fact that Decoration Day comes on Monday which means a vacation period of 2½ or 3 days for many city owners of automobiles has been pointed out as a factor pointing to an exceptionally large gasoline consumption over that period.

Although several refiners advanced their quotations on their 400, 390 and 375 endpoint gasolines there was no increase in demand. Very little, if any, naphtha is now available in Oklahoma under 6¼ cents.

Kerosene and Distillate

Kerosenes and distillates were not as active as the previous week. The 41-43 kerosene was available as low as 4⅜ cents. Distillate buyers were endeavoring to secure the 38-40 grade at 3⅛ cents. Most of the refiners did not change either their kerosene or distillate quotations.

Fuel Oil and Naphtha

Refiners who refused to lower their fuel oil prices were told that the product was selling in the Chicago area at prices 2½ to 5 cents under their quotations. These statements failed to change a generally firm market. Gas oils as previously explained were generally selling at 2¾ cents for the 32-36 grade. Several refiners continue to quote 3 cents on all inquiries.

Natural Gasolines

Both A grades of natural gasoline moved to a high of 6¼ cents the first of the week. The B grades and C grades advanced more rapidly. The former were quoted at 5¾ cents flat on Tuesday with a 5½ cent price on Grade C. According to the sellers Oklahoma manufacturers are well taken care of on orders for the balance of the month.

Lubricating Oils—Wax

The situation in all grades of lubricants is somewhat mixed. Two Oklahoma manufacturers reported that they were forced to give concessions on both neutrals and bright stocks to meet competition. Others reported a good movement at firm prices. There was no improvement in the wax price and demand during the week.

NORTH TEXAS MARKET SHOWED LITTLE CHANGE

WICHITA FALLS, Tex., May 23.—Little change was noted in the North Texas refined market which started the week rather slowly. The activity of exporters last week was expected to boost the gasoline market but the export buying was short-lived.

Gasoline was moved only fairly steadily and its price ranged from one-eighth cent under the present bottom to one-eighth cent higher. This afternoon the market appeared to be strengthening slightly, although refiners were not getting the buying expected.

Spot movement of U. S. Motor grade gasoline was fairly good because of ideal motoring weather. Refiners do not expect to have any trouble holding gasoline prices although buyers are not in the market strong. Inquiries continue fairly steady, but most refiners do not look for a lasting upward trend until the Seminole situation adjusts itself.

While gasoline dropped one-fourth cent in comparison to last week the bulk of the gasoline sold went at 6½ cents. Some went one-fourth below during the jockeying of prices, but very little. Sales managers had little trouble in getting 6½ cents when a buyer really wanted to buy.

Most refiners apparently are resolved to do a little patient waiting for business at fair prices. Cracking plants in the Wichita Fallas district are still shut down. In Fort Worth one plant is starting a cracking unit next week, but this is expected to be more of a test run. Just when crackers in the Wichita Falls district will be started is problematical.

The recent big buying in natural gasolines and the present steady buying made naturals the strongest product in North Texas. Towards the end of the week the bulk of buyers were after Grades B and double B. As a result of heavy buying the prices advanced one-fourth cent on all grades sold. This buying has made its price more in harmony with navy gasoline.

Movement and demand for kerosene caused that product to advance fractionally. At the opening of the week kerosene was strong and scarce. An increase in buying for tractor was attributed as the cause. As this demand has been held back by unfavorable weather it is expected kerosene will remain strong for some time.

Scarcity of the product was reflected in slight strengthening of distillate which was a little stronger with little available. Distillate moved fairly steady. Gas oil was a shade stronger.

While fuel oil strengthened its price did not take an upward swing although some refiners widened the differential, quoting as high as 95 cents. The strength of fuel oil was a result of activity of railroad buyers. The largest was a 25,000-bbl. order. But since the majority of cracking units in the North Texas area are shut down fuel oil has dragged because of the increased output.

LATE FIELDS

(Continued from Page 47)

drilling in the Sylvan shale at 4,040 feet with 700 feet of fluid in the hole.

GULF COAST

HOUSTON, Tex., May 24.—Four completions at Spindletop add 9,000 bbls. new production and bring the average up to 59,000 bbls. Hercules Oil Co.'s Paraffine, in Edgerly Pool, is flowing 1,500 bbls.

The Humble Oil & Refining Co.'s No. 1 Elliott & Clark, the well that opened the Bogey Creek district in Cherokee County, was worked over and is now heading 115 bbls. through seven-eighths-inch choker. The well recently started showing salt water and finally quit producing.

The Humble Co.'s No. 1 Kivlin in the Kleberg County Pool, near Corpus Christi, which had been heading 200 bbls. per day at 2,596 feet, quit flowing and is being worked over. It was completed last week.

The joint deep test by E. L. Smith Oil Co. and others on the west side of the Mexia structure is blowing gas at 5,726 feet and is thought to have topped the Trinity sand. It is the deepest test to date drilled for Trinity sand.

The Pandem Oil Co.'s deep test near Kosse bailed dry when tested at 4,509 feet and drilling was continued.

OKMULGEE RESOLUTION RECEIVED BY BOARD

WASHINGTON, D. C., May 24.—The Federal Oil Conservation Board today announced receipt of a resolution adopted by the Okmulgee District Oil and Gas Association pledging its co-operation with any practical measures that the industry may take for the conservation of petroleum. This resolution was signed by Senator W. B. Pine, chairman, J. H. Thatcher, M. C. French and C. I. O'Neill, a committee of the association. The resolution recites that the greater part of the overproduction is in the Seminole Field of Oklahoma and not by the producers operating small wells.

START SECOND LINE YATES TO M'CAMEY

SAN ANTONIO, Tex. May 23.—Illinois Pipe Line Co. has started laying a second oil line from the Yates Field in Pecos County to McCamey, 29 miles northwest. It will be 8-inch and have a capacity of 20,000 bbls. while the first line was 6-inch and with a capacity of 12,000 bbls. Further deepening of some of the wells of the Mid-Kansas Co. in the field has indicated clearly that the 6-inch line will not be sufficient. Leases were originally taken by the Transcontinental Co., and the Mid-Kansas Oil & Gas Co., a subsidiary of the Ohio Oil Co., has the working interest and discovered the field. Illinois Pipe Line Co., also a subsidiary of the Ohio Oil Co., built the first pipe line and is now building the second, for which pipe is already moving.

DEEP GASSER NEAR MEXIA

MEXIA, Tex., May 25—Working to get the estimated 12,000,000 cubic feet of gas under control, the Trinity Sands test of the E. L. Smith Oil Company and others on the Stubenrauch farm, near Mexia, operators reported gas still blowing from behind the small casing through the nine-inch pipe and operators interested, together with W. P. Laughter, oil and gas deputy, were seeking to control the well.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

The Question and Answer Department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry. Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

TETRALINE FOR EXTRACTING GASOLINE FROM NATURAL GAS

In the April 21 issue of The Oil and Gas Journal, on page 152, there is an article in which it is suggested that tetrahydronaphthaline or tetraline, may be used for absorbing gasoline from natural gas. Will you tell me where this material may be purchased and what does it cost?—H. B. K.

At the present time there is a limited demand for tetraline so it is not made in large quantities. However, it may be obtained from The Riedel A. G., Berlin, Germany, at a cost of approximately 35 cents a gallon, and in the United States from the Newport Chemical Company, Passaic, N. J. We are informed that the Newport Chemical Company can supply tetraline from its works at Milwaukee, Wis., in carload lots at a price close to 90 cents a gallon. Small quantities may be obtained for 20 cents a pound.

The properties of tetraline, as outlined in the mentioned article, suggest possibilities. The pure substance boils at slightly over 400 degrees Fahrenheit, has no viscosity, and does not solidify except at a very low temperature.

GRAPHITIC CORROSION

We have a deposit of soft black material taken from the inside of the cast iron condenser coils. This deposit was very soft when first removed but hardened after a few days. The crude contains less than one-half per cent sulphur. What is this black material, which appears to corrode the iron, and can it be prevented from forming?—G. S. E.

This is evidently a form of corrosion peculiar to cast iron known as graphitization, which is believed to be caused by action on the grains of pure iron. Certain kinds of cast iron have a greater tendency toward graphitization than others. White cast iron contains carbon mostly in combination and very little graphitic carbon. Gray iron contains more graphitic than combined carbon. The first corrodes slowly and the second corrodes rapidly.

The flakes of graphitic carbon appear to accelerate corrosion through the fact that they furnish a lower potential than the grains of iron and there is thus created a favorable condition for galvanic action. As the corrosion, or solution, proceeds there remains those substances which resist the action and the products; these include the mass of graphite, together with oxides, carbides and silicides of iron. These often retain the form of the original article. Pipe has remained in service long after disintegration, because there was no pressure or shock to disturb the flimsy structure.

Davies, Iron Age, page 942, Vol. 108, 1921, reports the percentage composition of cast iron before and after graphitic corrosion as follows: —

	Before	After
Total Carbon	3.29	10.82
Graphitic carbon	3.08	9.68
Combined carbon	0.21	1.14
Silicon	2.79	5.41
Phosphorus	0.75	1.92
Sulphur	0.08	0.87

Small quantities of sulphur, hydrogen sulphide and electric currents produce this form of corrosion. Numerous salts, including calcium chloride and sulphate, and especially sodium chloride, are also favorable.

It is known that iron does not corrode in the absence of water, and does not corrode in water when air and carbon dioxide are excluded. If temperature and other conditions prevent the condensation of water on the surface of the iron, there will be no corrosion. Tanks and pipe lines usually corrode above the oil level when water is absent from the oil.

Remedies are not practicable under the existing conditions. Some advantage may be gained by the use of cast iron of improved chemical composition, that is low in graphitic carbon. Treatment of the crude either before or during distillation; introduction of alkaline material into the condensing system, and the use of less steam in the still are additional suggestions which retard graphitization.

A word of caution concerning the possible danger of fire from this graphitic material, may be offered. This substance when exposed may absorb oxygen from the air with such rapidity that it will become red hot, so that if gas or petroleum vapors are close by a fire may result.

LUBRICATION AND THE ENGINE

Should low viscosity oil be used when a car is new? The engine of a new car, run about 3,000 miles, required new rings and it appears that the excessive wear may have been caused by poor lubrication. Your opinion will be appreciated. —A. H. Y.

The oil you describe has too low a viscosity. A much heavier oil should be used. The subject of motor lubrication was discussed by L. T. Wagner before the Southern California section of the Society of Automotive Engineers recently in Los Angeles and his remarks seem to suggest the answer to your problem. The following are taken from his address:

It is desirable to operate engines at comparatively high temperatures to reduce the fluid friction in the oil, but the oil should have sufficient body at these temperatures to prevent metallic contact between the pistons and the cylinder walls and to preserve an efficient piston-ring seal. Excessive cylinder wear, scoring of the cylinders and seizure of the pistons are seldom the fault of the oil, and the cause should be looked for elsewhere. When piston rings and ring grooves become worn badly, heavier oil will assist in offsetting this, but the use of an extremely heavy oil may do more harm than good, and if poor piston seal develops it is better to correct the mechanical condition.

It is advisable to use an oil that will form the minimum quantity of carbon and from which the carbon formed is of a nature that will not injure the bearing surface. Air cleaners are effective and beneficial to the extent that they prevent entrance into the engine of injurious solids. When wearing in a new engine, considerable metal in small particles is removed from the cylinder walls and pistons, hence frequent renewals of the oil should be made. Oil filtering devices are of benefit in proportion to the percentage of impurities they remove, but too much reliance should not be placed upon them, as it is possible, according to the speaker, for solids to accumulate in an engine equipped with such a device.

Fuel of sufficient volatility to gasify completely in the combustion chamber should be used, to reduce dilution of the lubricating oil and avoid impairing the piston seal. When warming up cold engines after starting, they should be run at low speed until heated, because the oil is more viscous and does not immediately lubricate the cylinder walls in force feed engines and, moreover, water condensed in the engine may have rusted the walls.

Special piston rings, bleeding of the pistons and measures of a similar nature intended to regulate the quantity of oil delivered to the cylinder walls are beneficial provided they do not rob them of the necessary supply. Reduction of oil feed to the cylinders, however, is often carried too far in an effort to decrease the oil consumption per mile of operation. Too much oil is better than not enough.

When operating with a small throttle opening, as in idling and running under light engine load, little compression is developed. Both combustion and exhaust pressures are also lower and the oil has a tendency to accumulate above the pistons. Operation at full throttle opening has the converse effect, and it is advisable, when it is necessary to maintain prolonged operation with full throttle, to close the throttle temporarily as opportunity permits.

Oil consumption increases gradually with age and use of a vehicle, and as the piston rings wear more rapidly than other bearing parts, it is frequently advisable to renew the rings. Wear of the ring grooves is more important than wear of the face of the rings, as motion of the rings in the grooves causes consumption to increase rapidly.

SYNTHETIC PETROLEUM PRODUCTS

Have you any information about the production of artificial gasoline in France? I have seen a short press notice of recent progress there and would like to have more details.—H. L. T.

Interest in the development of synthetic petroleum has been general in scientific circles in France, and is renewed through the announcement of a process alleged to be now practically on a commercial basis for the production of petroleum from lignite. This process would be particularly advantageous to France since it would utilize raw materials not now employed to a large extent in industry. Details of the process are still unavailable, but it is alleged to be superior to those developed in Germany and elsewhere.

A company has been formed to install a factory on a semi-industrial basis for the distillation of lignites, bituminous schists and oil-bearing sandstone and for the treatment of the products of distillation by catalysis. The factory will be built at Saint-Pollet-de-Saisson near the lignite concession of Saint-Julien-de-Peyrolas in the Gard. It is to use several ovens and to treat about 80 tons a day. The equipment is a complete unit, and further development will be accomplished by independent establishments rather than by increasing the number of ovens at this point.

The yield of a ton of undried lignite includes 8 to 13 gallons of gasoline, 5 to 8 of fuel oil and about 4.5 pounds of sulphur, in addition to semi-cokes, sulphate of ammonia and phenola. The recovery of the sulphur is an important factor in bringing down the costs of production. The gasoline is said to have a high proportion of benzine products.

On March 5, 1927, there was held the first official meeting of a company formed by an important group of French mining companies for the manufacture of synthetic carburants, under the name of "Carburants et Produits de Synthese." The company has a capital of 5,000,000 francs, which can be increased to 25,000,000 by decision of the board of directors. The shareholders include nearly all the mining companies of the Nord and Pas-de-Calais, of Blanzy, the Star and Moselle, Petite Rossells, Carnaux, the Charbonnages des Bouches-du-Rhone, etc. The total coal production of these companies represents 275,000,000 tons per year.

The object of the new company is the chemical treatment of fuels and of their solid, liquid, or gaseous derivatives with the view of manufacturing synthetic carburants and similar products, the installation and exploitation of equipment destined for this treatment.

NATURAL AND ARTIFICIAL VASELINE

What is the difference, if any, between the natural and artificial vaseline?—T. D. P.

Natural vaseline is a direct product which may be obtained from paraffin base or mixed crude oil by proper concentration of the wax distillate cut and purification of this residue. The artificial vaseline is a compounded or blended product made from low melting point paraffin wax and properly treated lubricating oil. Some ceresine, which is the purified material obtained from the mineral wax ozokerite, is used for this purpose in place of the paraffin wax.

Vaseline made by blending has a limited use in the arts, because it cannot be obtained having the same uniform composition and of the consistency possessed by natural vaseline. Properly refined vaseline melts between 95 and 105 degrees Fahrenheit, is semi-transparent, does not show any separation of oil on standing, and is free from grains of wax.

The artificial vaseline may usually be distinguished by the difference in consistency, melting point, separation of oil on standing, and the form of the wax crystals. Normal vaseline consists of a uniform dense mass of fine crystals, while the artificial product contains larger crystals, quite freely separated by the oil liquid.

SAMPLING NATURAL GASOLINE

We have to let several samples of natural gasoline stand some time before testing which results in loss of part of the sample. Can you suggest some method for storing such samples, say for several hours?—H. W.

Natural gasoline samples may be collected in glass bottles well stoppered, and packed in crushed ice until the portion is to be poured out and measured for testing. Some operators pack the necessary number of bottles in a bucket, cover with the cracked ice and take them to the tanks or cars where the samples are to be obtained.

The vacuum bottle, or thermos bottle, originally invented by Sir James Dewar as a container for liquid air, makes a convenient and satisfactory medium for handling natural gasoline in small quantities.

Length 46 feet. Inside diameter 10 feet.
Wall thickness 2½ inches. Weight 166,000 lbs.

Safety and Savings by Smith

In a single month the A. O. Smith Corporation has produced as many oil refinery pressure vessels as are produced by all the rest of the industry in a year.

Size of Stills

Smithsteel Cracking Stills can be built to any diameter and length within transportation limits—and in any wall thickness within steel mill capacity.

Safety

Smithsteel Cracking Stills have a continuous record of successful operation in the field under the most exacting and varied conditions.

Every Smithsteel Vessel is tested not only with reference to operating conditions but is subjected to pressures which may be three or four times as great as those which the vessel will encounter in actual operation. These tests are invariably made in the presence of purchasers' representatives.

Cost

Smithsteel Cracking Stills do cost more than vessels made by some other methods. The extra cost is the price of safety.

Speed in Getting New Refinery Units into Production

Smithsteel Cracking Stills shorten the time needed to get new refinery units into production.

Because of the completeness and scope of the A. O. Smith Corporation's plant and equipment, Smithsteel Vessels can be built in less time than is required by other manufacturers.

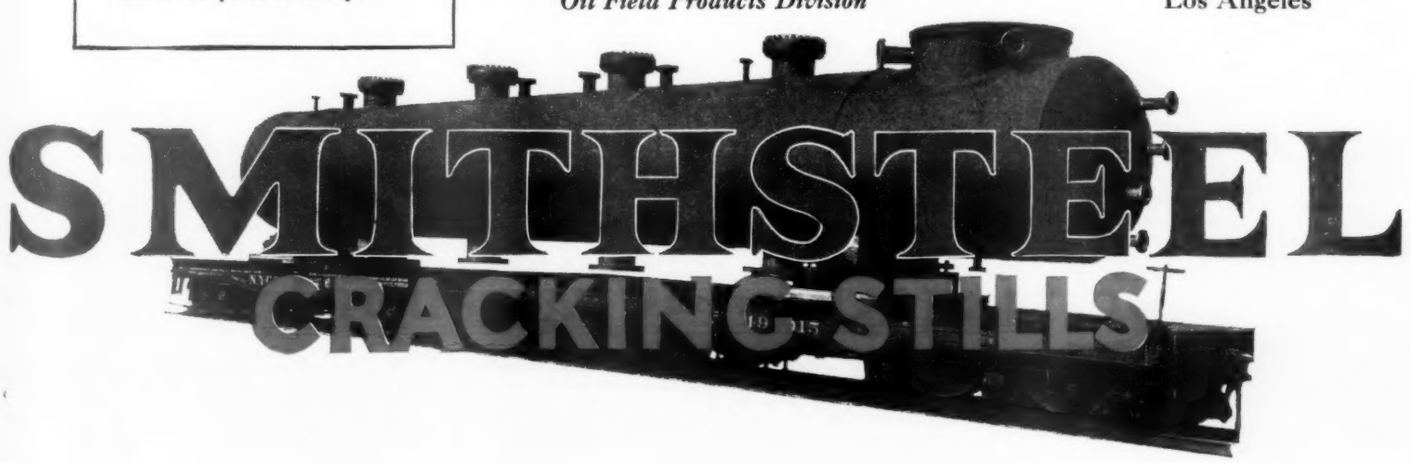
In a single month the A. O. Smith Corporation has produced as many oil refinery pressure vessels as are produced by all the rest of the industry in a year.

In addition, the methods of fabricating Smithsteel Vessels assure extreme accuracy.

You can, therefore, prepare superstructure, piping, etc., in advance with absolute certainty that Smithsteel Cracking Stills will fit.

The A. O. Smith Corporation will gladly place complete information before you.

A. O. SMITH CORPORATION *Milwaukee, Wisconsin*
Oil Field Products Division Los Angeles



Burn Sludge Acid Without Blending

Transcontinental Develops Method of Utilizing Waste Product Direct From Agitator as Fuel for Stills

By A. J. Slagter
General Superintendent Refineries, Transcontinental Oil Co.

Throughout the history of the petroleum refining industry, the sludge acid formed by the treatment of heavy oils has always been a necessary nuisance with which to contend in the production of lubricating oils. It has no commercial value but rather a high cost of disposal, for years having been piled in pits, increasing fire hazards and occupying acres of ground with high real estate value. Large sums have been spent by different companies in effort to recover the acid and free the commercial asphalt, the results generally proving unsuccessful. Within the last few years, however, continued research has developed numerous plans by which the sludge is being burned as a partial or entire fuel supply at different refineries, to some netting a small profit, to others a loss.

The fuel value of the substance varies in accordance with the asphaltic content of the crude and the amount of acid used in the treating of heavy stocks. However, an estimate of the value may be determined from results obtained at the Transcontinental Oil Co.'s Fort Worth refinery where research along these lines has been carried on, with which the author is familiar. By burning 200 bbls. of acid sludge daily the gas consumption has been reduced 1,000,000 cubic feet per day. This gas averages 1,100 B.t.u. per cubic foot. Thus we calculate the B.t.u. of the sludge to be 5,500,000 per barrel or (a 400-pound barrel) 13,750 B.t.u. per pound. Based on gas at 17 cents per 1,000 cubic feet the fuel value equals 85 cents per barrel; based on fuel oil at $1.50 per barrel the fuel value equals $1.05 per barrel. With such worth it is little wonder that its adoption as a fuel is becoming extensive.

Mixing With Fuel Oil

Several companies have adopted a plan by which the heavy sludge is mixed with fuel oil and burned as a liquid fuel through steam atomizing burners. This is accomplished by pumping the fresh sludge directly from the agitators to an agitating tank where it is mixed with 50 per cent fuel oil, a small amount of lime or soda ash as a binder, and kept in constant agitation at a temperature near 120 degrees Farhenheit. From this tank it is circulated through feed lines to the various heating units and back to the mixing tank.

Necessarily numerous difficulties result, as keeping the sludge suspended in fuel oil by constant agitation, holding the entire mixture at a constant temperature close to 120 degrees Fahrenheit, continually by-passing the fuel past the burners and back to the mixing tank to keep the lines open, as well as atomizing with steam, all entailing an enormous expense in power and a high rate of depreciation to operating machinery.

Furthermore, when sludge acid is mixed in a 50 per cent ratio with fuel oil the resulting supply of fuel will exceed the demand. In effort to remedy this excessive supply the ratio of the mixture has often been altered. The results, however, have proved unsuccessful as the fuel becomes too heavy to handle as a liquid.

Then, too, for refiners having a comparatively low gas rate the burning of fuel oil is a financial loss. For instance, at most refineries, (with 17 cent gas rates), the same amount of heat can be derived from $1.00 paid for gas as can be obtained from $1.60 paid for fuel oil. At a theoretical loss of $60 per 100 bbls. of fuel oil burned, the shortcomings by mixing the fuel oil with sludge in effort of disposal would be enormous.

In contrast to this method, a system operated at the Fort Worth refinery of The Transcontinental Oil Co., proving highly economical, is brought about by treating heavy stocks in agitators erected directly in front of the stills (or wherever the fuel is needed). The treated oil is drawn off the top and the sludge acid is dropped into a large concrete basin, from which it is shoveled into the furnaces equipped with cast iron grate bars and burned like coal. By locating the agitators at the point of consumption of the sludge, all problems of transportation are eliminated.

Firing sludge is in principle similar to the old method of firing coal by hand. It is necessary to build a bed of red hot coals that cover the grates to a thickness of from two to three inches. The sludge is cut into small pieces (about six inch cubes) and well scattered over the layer of hot coals. After giving ample time for the sludge to coke, it is broken up and another layer of sludge scattered over the surface. This is repeated until the fuel bed has been built up to a thickness of from twelve to thirteen inches, which level is maintained throughout the run. If the fire radiates too intense heat, it is regulated by opening an air space at the back of the grates, allowing the cold air to circulate through the furnace, bringing the temperature down to the desired point. At no time should the thickness of the bed be altered to regulate the temperature of the still, as such alteration cuts the thickness of the bed of coals and allows the sludge to melt and drip through the grates. It is with this problem that the firemen at first have greatest difficulty. However, after becoming more experienced very little trouble results and temperature regulation is easily controlled.

Unlike coal, sludge forms little ash and does not clinker. The majority of the ash formed is light, allowing the velocity of the draft to carry it out the stack

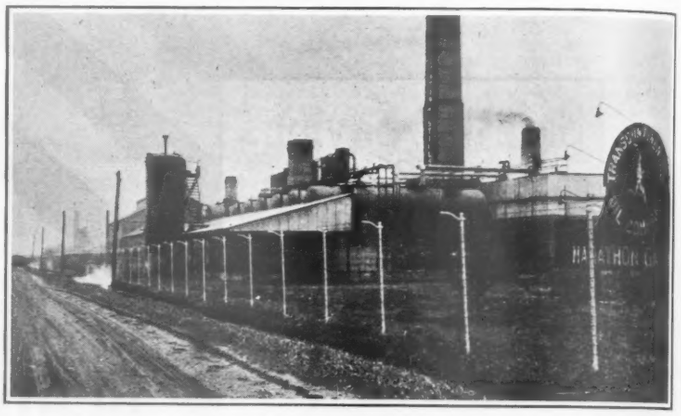
(Continued on Page 216)

DISPOSAL OF SLUDGE ACID

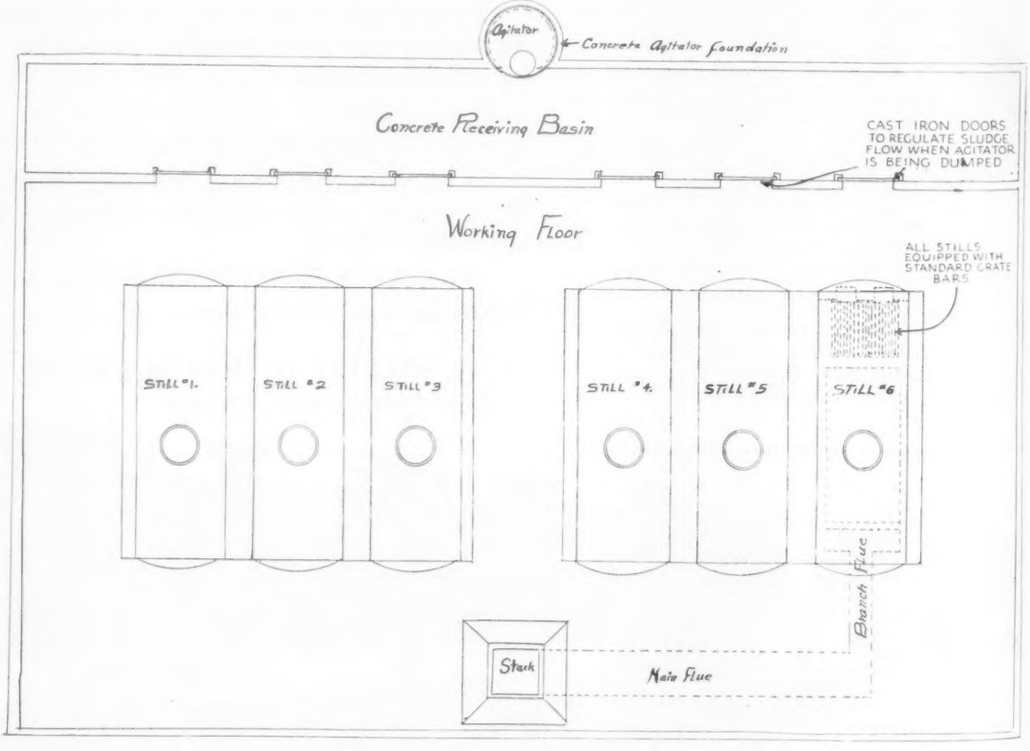
What to do with sludge acid has been a problem in the refining of lubricants which is almost as old as the industry itself. Not only has the product had no commercial value but it has usually presented a difficult problem as regards disposal.

Several solutions have been offered and are in use at a few plants. Some recover the acid from sludge. Others are mixing the sludge acid with fuel oil and using the blended product as plant fuel.

In this article Mr. Slagter, who is in general charge of the two Oklahoma and one Texas refinery of the Transcontinental Oil Co., describes a new method of burning the sludge acid which has been developed at the Texas refinery.



View showing battery of shell stills using sludge acid as fuel.



Sketch showing the general location of the agitator in relation to the stills at Fort Worth refinery of the Transcontinental Oil Co. The heavy oils that are ready for treatment are pumped into the agitator where they are brought in contact with the acid. After the general routine for treatment is finished, the treated oil is drawn off the top and the sludge is dropped into the receiving basin, from where the workmen fire it into the furnaces. By this method of burning acid sludge, all transportation problems are eliminated.

Over 50,000,000 Bbls. storage capacity now protected

by Johns-Manville vapor-tight insulated tank tops*

** Patented. Other patents pending*

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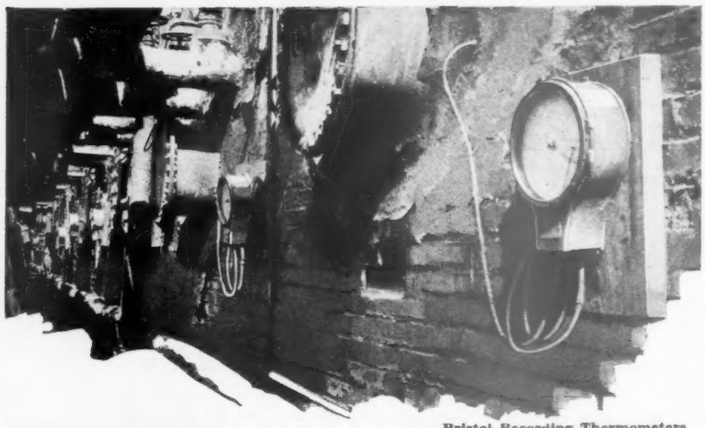

Bristol Recording Thermometers at the plant of the Bolene Refining Co., Enid, Okla.

Watch-dogs of heat!

Bristol's

The most extensive line of Recording Instruments; including recorders for Pressure, Liquid Level, Temperature, Electricity, Motion, Speed, Humidity, etc.

Ask for Bristol's Catalog.

Still operations run more smoothly when under the watchful eye of Bristol Recording Thermometers. They never sleep.

The ruggedness of these instruments is particularly well attested by the photograph above—showing Bristol instruments designed for indoor mounting, but mounted out-of-doors and doing their work well day after day, in spite of the elements. It is service like this that gets and holds the confidence of refinery engineers.

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FOR 36 YEARS — Ask Any Technical Engineer — MAKERS OF

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AMERADA
PETROLEUM
CORPORATION

Producers of Crude Oil
Manufacturers of
Absorption Gasoline

Tulsa, Oklahoma

OKLAHOMA PRODUCTION, FOR FIRST QUARTER

(Continued from Page 75)

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
Bay State Oil & Gas Co., Kansas City, Mo.	14,295.26	.....	26,282.09
*J. M. Bumpas, Duncan	7,601.72	1,780	11,862.87
*Vergie E. Bloydic, Duncan	1,145.43	.....	1,888.36
*Buchner Co., Holdenville	.....	.....	3,893.01
C			
*Chan & Humphrey, Blackwell	.....	.....	5,306.54
Continental Oil Co., Denver Colo.	24,389.04	.....	42,956.23
*Continental Oil Co., Denver, Colo.	.....	.....	137.10
Crude Oil Development Corp., Blackwell	1,118.57	.....	1,896.32
Continental Oil Co., Tulsa	8,938.63	.....	18,395.31
J. R. Cole, Jr., Tulsa	.....	.....	6,212.96
*J. A. Chapman, Tulsa	8,789.84	.....	16,848.85
Creo Oil Co., Tulsa	6,951.64	.....	10,647.54
*Anna Elizabeth Cox, Ardmore	.....	.....	4,368.49
Maire Caswell Co., Bartlesville	.....	.....	5,530.76
Cushing Ref. Gasoline Co., Cushing	.....	57,664	4,234.15
Coline Oil Co., Oklahoma City	16,120.01	.....	24,775.91
*R. W. Coe, Ardmore	.....	.....	3,632.39
E. L. Connelly et al, Tulsa	.....	.....	3,962.48
E. L. Connelly et al, Tulsa	.....	.....	268.66
*Cecil C. Chamberlin, Tulsa	.....	.....	1,911.65
Coline Oil Co., Oklahoma City	67,687.83	16,018	83,812.35
W. S. Critchlow, Ardmore	29,818.05	.....	49,562.02
*Wm. McKinley Clayton, Sapulpa	.....	.....	2,287.32
*Vivian Clayton, Sapulpa	.....	.....	1,188.59
Charlie Clayton, Sapulpa	.....	.....	1,588.70
*Colonial Royalties Co. and John P. Cappeau, Jr., Tulsa	.....	.....	6,287.40
Crosbie-Davis-Sloan & Sturm, Inc., Tulsa	1,307.59	.....	2,297.52
*J. E. Crosbie, Tulsa	.....	.....	286.54
Crosbie, Sturm & Davis, Tulsa	2,471.82	.....	4,276.25
Cotton Belt Petroleum Co., Tulsa	21,721.90	100,924	37,113.92
Carlock & Dexter, Ardmore	3,023.08	.....	4,730.34
*Samuel J. Caudill, Tulsa	1,828.48	.....	3,481.12
*Frank Charon, Okmulgee	1,647.88	.....	3,391.95
*Clarisa Devely Conyers, Covington	.....	.....	3,978.79
*Collis Oil Co., Vinita	.....	.....	4,468.11
*Joe Carter, Wewoka	.....	.....	48,726.57
L. D. Chamberlin, Sapulpa	.....	.....	2,660.66
Clarion Oil Co., Houston, Tex.	5,941.27	.....	10,309.79
Crump & Beard, Duncan	5,138.48	.....	8,326.10
Crump & Beard, Duncan	2,408.69	.....	4,046.89
J. G. Beard, et al, Duncan	14,605.28	.....	28,722.17
Crump, Beard-Kolb, Duncan	.....	18,300	18.33
Crump & Beard, Duncan	7,342.98	.....	12,260.36
*J. L. Crump, Duncan	.....	.....	190.17
*D. J. Cochran and J. Geo. Werner, Kansas City, Mo.	.....	.....	3,303.04
*Noah J. Caves, Stroud	2,822.39	.....	6,659.31
M. K. Clover, St. Marys, Ohio	3,810.42	.....	6,135.38
S. C. Canary, Tulsa	6,344.11	.....	10,124.81
C. B. Creekmore, Tulsa	1,467.42	.....	2,556.48
*Wm Case, Blackwell	2,137.58	.....	4,445.73
F. E. Cusack, Okmulgee	.....	.....	2,042.45
*L. R. Crowell, Dallas, Tex.	.....	.....	1,613.93
*W. O. Coppedge, Holdenville	.....	.....	1,913.66
Col-Cul Oil Co., Okmulgee	1,154.46	.....	2,002.30
*A. T. Challburg, Claremore	.....	.....	1,823.46
G. W. Connelly, Caney, Kans.	.....	.....	15,945.34
W. E. Conner, Gotebe	.....	.....	6,068.01
*J. L. Cadden, Baxter Springs	.....	.....	2,322.24
Cobb & Hollingsworth, Ardmore	4,612.55	.....	5,702.89
*Guy P. Cobb, Ardmore	1,108.29	.....	1,821.34
*A. C. Hollingsworth, Ardmore	.....	.....	197.97
*Forrest Chapman, Davenport	902.54	.....	1,977.80
*D. P. Chapman, Davenport	902.54	.....	1,977.80
*Lillie May Chapman, Davenport	902.54	.....	1,977.80
*Laura A. Clubb, Tulsa, care of Exchange Trust Co.	.....	.....	25,209.22
E. R. and A. J. Canary, Caney, Kans.	2,304.44	.....	3,452.02
Crown Central Petroleum Co., Houston, Tex.	.....	.....	5,759.61
G. C. Clark & Co., Bartlesville	.....	.....	1,514.17
O. O. Coppedge, Tulsa	.....	.....	1,990.21
Crosbie & Gillespie Gas Plant, Tulsa	.....	.....	4,504.39
Coombs Oil Gas & Land Co., Bartlesville	.....	.....	3,813.64
Columbia Petroleum Co., Oklahoma City	1,408.79	.....	2,321.43
Continental Oil & Refining Co., Independence, Kans.	8,380.89	.....	13,153.21
E. L. and A. J. Canary, Caney, Kans.	2,321.84	.....	4,100.34
Cortez Oil Co., Tulsa	14,744.14	.....	21,969.13
*Minnie L. Cornelius, Muskogee	.....	.....	2,362.15
*Ralph P. Cornelius, Muskogee	.....	.....	898.85
*W. S. Cornelius, Muskogee	.....	.....	904.79
Crude Oil Royalties Corp., New York City	11,468.49	.....	21,945.06
*Wm. S. Cline, Newkirk	.....	.....	4,343.97
W. S. Cline, trustee, Newkirk	.....	.....	3,576.01
*Central Petroleum Co., Tulsa	.....	.....	188.52
Central Petroleum Co., Tulsa	3,974.55	.....	5,115.08
Cushing Gasoline Co., Tulsa	2,253.77	.....	3,980.63
*Margaret D. Cooney, Tonkawa	.....	.....	2,203.43
*Chas W. Clay, Ardmore	.....	.....	2,956.16
Chestnut & Smith Corp, Tulsa	.....	.....	4,901.51
*Chestnut & Smith Corp., Tulsa	284.09	.....	436.88
Mrs. Alice M. Cassidy, Guthrie	1,675.43	.....	3,327.32
*Mrs. Alice M. Cassidy, Guthrie	.....	.....	148.94
Kathryn Cassidy, Guthrie	670.16	.....	1,305.20
*Wm. S. Cline, trustee, Newkirk	.....	.....	4,566.32
*Wm. S. Cline, Newkirk	.....	.....	147.16
*W. J. Crews, Gdn., Guthrie	.....	.....	161.48
*W. J. Crews, Guthrie	.....	.....	2,768.19
Cudahy Oil Co., Cleveland	13,415.28	.....	20,397.58
Cumberland Petroleum Co., Cleveland, Ohio	16,723.79	.....	27,703.01
R. E. Crews, Grandfield	.....	.....	2,043.79
*Cameron Refining Co., Ardmore	.....	.....	292.09
Cameron Refining Co., Ardmore	37,948.45	.....	61,292.03
*Ora Carr, Okmulgee	.....	.....	584.71
M. L. Carr, Okmulgee	.....	.....	5,752.78
*H. L. Clarke, Oklahoma City	.....	.....	814.52
Lewis Clark Petroleum Co., Oklahoma City	2,695.79	.....	5,035.54
*I. M. Clubb, Kaw	13,443.60	.....	25,210.13
Carter Oil Co., Tulsa	.....	.....	269,114.93
*Elizabeth M. Crawford, Tulsa	15,177.00	.....	1,517.79
*Crump & Beard, Duncan	.....	.....	1,536.29
Crawford & Zahn, Tulsa	1,726.47	.....	2,953.64
Clymax Oil Co., Tulsa	.....	.....	4,223.21
*W. C. Cosey, Wewoka	.....	.....	3,742.75
*Eugene Cox, Mena, Ark.	1,830.85	.....	2,606.24
*J. H. Cook, Depew	.....	.....	2,604.13
*Geo. S. Carman, Bristow	.....	.....	2,581.61
Colsow Oil Co., Tulsa	5,942.59	.....	9,174.89
Collis Oil Co., Tulsa	.....	.....	3,660.89
*Joe A. Combs, Bristow	.....	.....	1,454.24
*Craig & Andrews, Chandler	.....	.....	1,496.50
Ida M. and Ray Collins, Tulsa	904.61	.....	1,502.66
W. L. Curtis Co., Elmira, N. Y.	.....	.....	1,513.29
Geo. W. Cook, Lawton	.....	.....	1,887.03
*Flora P. Croock, Keensburg, Colo.	.....	.....	1,655.38
Commonwealth Oil Co., Warren, Pa.	820.05	.....	1,435.68
*Dillard H. Clark, Jr., Tonkawa	.....	.....	15,439.42
Clark & Cowden, Duncan	33,742.34	.....	60,545.29
Commercial Drilling Co., Tulsa	4,374.89	.....	6,815.98
Corona Oil Co., Tulsa	1,331.62	.....	2,299.36
Central States Oil & Gas, Tulsa	1,787.97	.....	3,057.01
Stanley J. Campbell, Wichita Falls	4,772.67	.....	9,440.62
J. D. Canary, Littleton, Colo.	.....	.....	4,907.26
Canary & Canary, Littleton, Colo.	.....	.....	3,624.57
Crews Estate Oil & Gas Production Co., Enid	13,613.29	25,120	31,721.85
*Laura E. Crews, Enid	.....	.....	3,109.19
*L. E. Crews, heirs, Enid	1,945.18	.....	4,303.31
Comar Oil Co., St. Louis	.....	3,861	205,332.15
Carter Oil Co., Tulsa	4,140,542.45	.....	7,402,627.90
*Commercial Drilling Co., Tulsa	4,871.21	.....	8,856.73
S. L. Canterbury, Bristow	.....	.....	1,870.20
*S. L. Canterbury, Bristow	.....	.....	169.22
*S. L. Canterbury, Bristow	.....	.....	1,065.58
Champlin Refining Co., Enid	95,207.32	.....	186,424.21

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Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
*J. B. Champion, Ardmore	.....	.....	3,443.18
*J. T. Carnes, Wetumka	.....	.....	2,188.97
*J. T. Carnes, agent, Wetumka	.....	.....	73.78
Central Producing Co., Muskogee	169.17	51,687	2,799.91
*J. O. Chapman, Waxahachie, Tex.	.....	.....	7,815.33
Correne Oil Co., Tulsa	.....	.....	1,514.40
Comar Oil Co., St. Louis, Mo.	1,834,388.55	.....	3,610,842.35
Campbell Oil Co., Tulsa	3,874.15	.....	5,867.03
*S. H. and M. L. Cowan, Pauls Valley	.....	.....	2,566.70
D			
H. C. Deems, Tulsa	.....	.....	3,980.38
*Burchard Denker, Enid	.....	.....	2,882.23
Delmar Oil Co., Bartlesville	63,470.63	.....	112,887.70
Deep Fork Oil Co., Marietta, Ohio	1,774.91	.....	2,602.81
*Deep Fork Oil Co., Marietta, Ohio	1,080.37	.....	2,072.95
*A. D. Davis, Wilson	.....	.....	2,266.57
Denver Prod. and Refg. Co., Okmulgee	.....	70,226	3,511.30
Detrick Corporation, Okmulgee	954.40	.....	2,483.83
*Detrick Corporation, Okmulgee	.....	.....	98.47
H. C. Detrick, Okmulgee	7,985.50	.....	10,517.06
*O. H. Douglass, Okmulgee	89,708.05	.....	6,308.75
Denver Producing and Refining Co., Okmulgee	2,314.49	.....	4,254.42
*R. D. Donelly, trustee, Tulsa	.....	.....	1,650.10
*C. F. Dillard, Ardmore	.....	.....	3,412.42
*V. E. Dillard, Ardmore	.....	.....	8,244.54
*A. D. Davis, Ardmore	.....	.....	1,434.55
*Jos. A. Dixon, Duncan	.....	.....	1,418.43
Dewey Portland Cement, Dewey	761.09	.....	1,261.71
*Dewey Portland Cement, Dewey	.....	.....	114.54
*L. S. Doleman, Ardmore	.....	.....	3,824.62
Jessie C. Doleman, Ardmore	.....	.....	313.13
Dixie Oil Co., Inc., Shreveport, La.	.....	.....	793,878.89
L. R. Davis, Tulsa	.....	.....	1,388.55
L. R. Davis, Tulsa	.....	.....	311.97
John Dean estate, Guthrie	.....	.....	1,264.63
Doris Oil & Gas Co., Tulsa	803.46	.....	1,235.49
*J. H. Dillard, Ardmore	6,665.44	.....	9,647.47
J. D. Dwyer, Tulsa	37,385.10	.....	67,681.17
*J. F. and Mary Dowell, Stroud	.....	.....	3,754.44
*A. H. Drak, Wichita Falls	.....	.....	1,536.27
*A. E. Duncan, Blackwell	.....	.....	1,744.54
D. & S. Oil and Gas Co., Tulsa	.....	.....	1,558.21
*A. B. Douglas, Wewoka	.....	.....	2,464.32
H. H. Darks, Oklahoma City	.....	.....	5,901.23
Douglas Oil Co., Tulsa	4,121.92	.....	7,322.60
H. & O. Dixon, Bartlesville	4,895.25	.....	7,778.20
De Soto Gasoline Co., Houston, Tex.	1,215.48	13,845	3,258.85
*C. J. Davenport, Sapulpa	.....	.....	2,599.75
*H. T. Douglas, Shawnee	.....	.....	8,296.53
W. T. Denton, trustee, Muskogee	30,695.00	.....	3,069.50
*J. G. Doneghy, Tulsa	2,085.41	.....	3,494.32
Darby Lynde Co., Tulsa	1,984.07	.....	4,164.39
*Darby Lynde Co., Tulsa	1,259.64	.....	2,144.13
Harry H. Diamond Co., Holdenville	.....	.....	12,114.65
Fred H. Dierks trustee, Kansas City, Mo.	1,542.66	.....	2,429.18
*Fred H. Dierks trustee, Kansas City, Mo.	313.14	.....	548.09
*Howard I. Davis, Wamego, Kans.	.....	.....	16,382.37
*M. S. Douglas et al, Weleetka	.....	.....	3,063.05
*Dorothy H. Diamond, Holdenville	.....	.....	3,110.70
Delaware Consolidated Oil Co., Tulsa	17,356.72	.....	25,119.79
*Joe Dixon, Norman	.....	.....	11,989.88
A. S. Dunnington, Tulsa	.....	.....	1,780.68
Daisy Bell Petroleum Co., Ardmore	5,747.64	.....	9,299.65
*W. T. Dilley trustee, Waurika	9,263.05	.....	12,057.07
*Dover Inv. Co., Bartlesville	2,015.28	.....	3,604.23
Dover Oil Co., Bartlesville	741.51	.....	1,149.37
*Dover Oil Co., Bartlesville	.....	.....	423.87
Dallas Co., Tulsa	3,931.64	5,525	7,033.28
*W. L. Dixon, Duncan	10,555.74	.....	16,921.58
P. C. Dings, Chicago, 1539 Ill. Merchants Bk.	3,024.04	.....	5,274.44
Dixie Oil Co., Cement	.....	.....	2,078.79
*U. T. Duncan, Braman	.....	.....	6,978.16
*B. F. Davis, Wewoka	.....	.....	33,031.61
Delk Investment Corp., St. Louis, Mo., Shell Bldg.	.....	.....	8,637.53
Darby Petroleum Corp., of New York, Tulsa	1,760.92	.....	3,030.72
Devonian Oil Co., Tulsa	120,904.18	.....	221,720.35
*Devonian Oil Co., Tulsa	.....	18,298	4,682.02
H. M. Duffey et al, Tulsa	1,237.94	.....	2,392.29
Elmer Dickason, Dilworth	.....	.....	2,404.62
*J. F. Darby, Muskogee	.....	.....	3,640.63
*F. E. Duncan, Wichita, Kans.	.....	.....	1,741.68
J. D. Dixon, Duncan	.....	.....	3,839.14
*J. J. Deaner, Okmulgee	2,476.68	.....	4,236.62
*C. A. Dressler, Bristow	.....	.....	1,700.34
*Doss Oil Royalty Co., Oklahoma City	.....	.....	30,791.78
Duffield, Berlin & Moore, Tulsa	.....	.....	742.51
Duffield, Howard & Berlin, Tulsa	.....	.....	6,136.87
Duffield, Howard Oil Co., Tulsa	2,331.08	.....	3,393.37
L. C. Duffield, Tulsa	1,273.37	.....	1,906.21
Duffield & Co., Tulsa	2,825.19	.....	4,261.72
*W. E. & Dainty Rogers, Tulsa	.....	.....	1,876.65
E			
Enfisco Oil Corporation, Tulsa	10,560.30	.....	20,777.22
Empire Gas & Fuel Co., Bartlesville	.....	.....	67,455.03
Empire Gas & Fuel Co., Bartlesville	303,537.36	.....	487,557.73
*Empire Gas & Fuel Co., Bartlesville	.....	.....	4,749.39
*Empire Natural Gas Co., for T. Fixico, Bartlesville	.....	.....	13,594.95
*Empire Natural Gas Co., for D. Ingram, Bartlesville	.....	.....	3,724.17
*Empire Natural Gas Co., for (Blank), Bartlesville	.....	.....	10,532.38
*Empire Natural Gas Co., for D. Fixico, Bartlesville	.....	.....	9,075.61
*Empire Natural Gas Co., for Jand, Bartlesville	.....	.....	3,592.67
*Empire Natural Gas Co., for Goodwin, Bartlesville	.....	.....	1,695.28
*Empire Natural Gas Co., for Davis, Bartlesville	.....	.....	48,302.33
*Empire Natural Gas Co., for Wilson, Bartlesville	.....	.....	13,115.36
*Empire Natural Gas Co., for Lacy, Bartlesville	.....	.....	18,582.71
Empire Natural Gas Co., for Wade Lewis, Bartlesville	.....	.....	268.49
*Enid Bank and Trust, Enid	.....	.....	27,873.23
*Jake Easton, Tulsa	.....	.....	1,227.68
*Marry F. Earp, Stroud	.....	.....	1,003.91
*D. L. Evans, Tonkawa	.....	.....	1,497.50
*Sidney T. Evert, Joplin, Mo.	.....	.....	1,416.37
*J. H. Ellis, Maramec	.....	.....	1,699.11
*Ann M. Ennis, Oklahoma City	.....	.....	1,495.39
*C. C. Endicott, Tonkawa	.....	.....	5,789.81
Exchange Oil & Gas Co., Tulsa	976.06	.....	1,568.43
*Empire Gas & Fuel Fuel Co., Bartlesville	.....	.....	1,506.78
Ellis Drilling Co., Wichita Falls	4,871.66	.....	8,830.46
Enterprise Transit Co., Titusville, Pa.	3,220.22	.....	4,896.20
*W. H. Elliott et al, Castle	924.74	.....	1,669.92
Eagle Picher Lead Co., Henryetta	2,024.49	38,000	5,742.65
Emery Bros., Bradford, Pa.	2,431.08	.....	4,437.85
*Bertha Ewell, Tulsa	.....	.....	4,051.87
T. T. Eason, Enid	2,202.91	.....	3,727.01
*T. T. Eason, Enid	10,978.07	.....	21,918.56
Elk Oil Production Co., Tulsa	.....	.....	701.84
*Elk Oil Production Co., Tulsa	920	.....	1,980.09
*Elm Oil Co., Tulsa	2,720.40	.....	4,878.13
Elm Oil Co., Tulsa	16,432.69	.....	27,458.87
Echo Oil Co., Tulsa	13,521.48	.....	22,117.17
*S. E. Edwards, Jr., Muskogee	.....	.....	13,506.37
*J. F. Eagan, Sapulpa	.....	.....	2,056.02
Lewis Emery & Sons, Bradford, Pa.	13,255.98	.....	21,356.39
Employees Realty Co., Tulsa	1,060.14	1,460	1,893.37
L. R. Ebling & Co., Bartlesville	1,135.66	.....	1,675.71
Elgin Lease, A. W. Shulthis, estate, Independence, Kans.	1,186.00	.....	2,021.43
*Mrs. Laura A. Endicott, Tonkawa	.....	.....	5,256.54
Mr. Ellis, Tulsa	.....	.....	4,391.86
Alma Miller England, Ponca City	.....	.....	3,132.88
Alma Miller England, Ponca City	.....	.....	370.02
Empire City Co., Tulsa	1,418.57	.....	2,538.00
Wm. H. Elson, Tulsa	.....	.....	15,933.28
T. T. Eason, Enid	.....	.....	2,000.16
Elliott & Smith, Tulsa	12,288.19	.....	25,186.15

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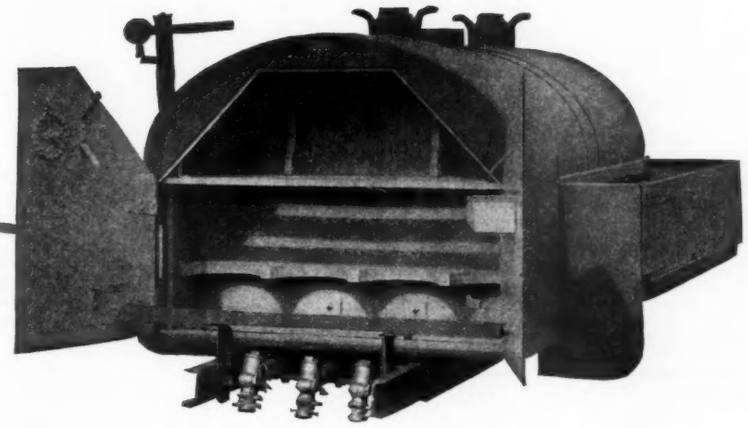

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LEADER Truck Tanks travel easily over good and bad roads—pavement, cobblestones, rutty dirt and mud roads—because of the new basic principle of construction. Rigidity above the truck springs prevents destructive wearing and working, giving a noticeable sense of security and a material reduction in depreciation.

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This Guide, owned and used by ourselves and licensed for use on but few other chain hoists, is the only Guide that absolutely controls the hand chain while in motion. It prevents the hand chain from buckling or "gagging" in the guide—whether operated at the point of hoisting or at an angle from the hoist.

It has many other advantages about which we should like to tell you. Send for Catalog 7-B.

FORD CHAIN BLOCK COMPANY
Second and Diamond Sts., Philadelphia, Pa.

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
F			
*Julia B. Fauekner, Stroud			1,324.59
*George Fleming, Jennings			1,262.00
*J. H. Fowler, Graham	802.08		1,252.74
The 45 Oil Co., Chicago, Ill.	1,198.72		1,886.74
*Finerty Investment Co., Oklahoma City			1,423.31
*James Finch, Lindsey			1,608.64
*First National Bank, Oklahoma City			1,790.14
Future Development Co., Okmulgee	2,174.83		3,771.75
*Future Development Co., Okmulgee			246.04
A. L. Funk, Tulsa			3,807.57
Flossman Oil & Gas Co., Blackwell			7,804.02
D. W. Franchot & Co., Tulsa	45,043.50		80,090.07
*D. W. Franchot & Co., Tulsa			738.74
Fan Elva Oil & Gas Co., Tulsa	1,664.36		2,833.31
M. C. French, Okmulgee			2,774.81
*First National Bank, Wichita, Kans.			1,951.40
*James F. Foster, Anthony, N. M.			7,083.71
*W. H. Franks, Seminole			128,172.49
*D. N. Fink trustee, Muskogee			5,068.49
Ray S. Fellows, Tulsa			1,818.38
*C. L. Fallansbee, Eufaula			1,891.84
Fiat Rock Oil Co., Tulsa	1,039.10		1,566.61
*Gertrude Fuss, Oklahoma City			1,586.72
*N. B. Feagin, Ardmore			3,370.89
*N. B. Feagin, Ardmore			2,611.62
45 Oil Co., and E. S. Bell, Chicago, Ill.	3,856.80		6,256.82
*L. W. Freeman, D. Nichols, gdn., Sapulpa			2,267.70
Fern Oil & Gas Co., Yale	9,311.94		16,121.36
Fox Royalty Co., Tulsa	4,374.22		6,841.23
*Fox Royalty Co., Tulsa	2,389.51		3,590.86
Gus Forbes, Okmulgee	5,722.83		9,271.34
*Mrs. Carl S. Ford, Enid			2,058.54
Foster Petroleum Corp., Bartlesville	256,969.81		510,361.64
Foster Petroleum Corp., Bartlesville			513.22
Foster Oil Co., Tulsa			21,473.68
Foster & Davis, Inc., Bartlesville	9,157.21		15,086.14
*J. M. Foltz, Muskogee			2,416.31
*W. W. Fandren, 920 Humble Bldg., Houston, Tex.	2,141.97		3,629.78
*J. P. Flanagan Tulsa			5,947.17
J. P. Flanagan, Tulsa			6,001.86
Olney F. Flynn, Tulsa			1,595.33
Flora, Okla. Oil Co., Cement	6,066.07		10,163.48
Finance Oil Co., Gowanda, N. Y.			26,796.26
Fair-Patto & Norton, Okmulgee			928.11
*H. G. Fair et al., Okmulgee			5,059.02
Dolman-Feagin-Gant & Tyer, Ardmore			11,114.89
Deep Rock Oil & Ref. Co., Tulsa			124 830.62
Delaware Cherokee Oil Co., Bartlesville	2,274.34		3,684.49
*J. H. Funston, Shawnee			8,702.77
J. E. Faucett, Dallas, Tex.			2,646.47
*George Frederick, Santa Monica, Calif.			7,926.48
*Mildred A. Frederick, Santa Monica, Calif.			8,226.11
*A. L. Frederick, Santa Monica, Calif.			8 174.81
*George W. Flint, Ripley			1,153.53
S. F. Fouter, Dallas, Tex.			1,241.98
*E. F. Fitzgerald, Covington			1,020.85
Fidelity Oil Corp., Louisville, Ky.			1,029.43
*B. A. Farmer, Bristow			1,038.37
A. L. Farmer & Duran, Tulsa			267.78
*A. L. Farmer & Duran, Tulsa			977.20
Gertrude Farr, Howarden, Iowa	1,010.68		1,591.34
*First National Bank Admr. Est. of Thomas Marioneaux,. Oklahoma City			11,165.67
Fitzgerald, Hinkle & Westheimer, Ardmore	2,543.26		4,264.75
D. C. Fitzgerald, Ardmore			3,091.26
D. C. Fitzgerald trustee Ardmore			11,137.85
*G. W. Frazier, Checotah	10,798.03		17,870.13
Fort Ring Oil & Gas Co., Fort Worth, Tex.			6,207.46
*Fox Petroleum Co., Ardmore			7,906.57
*Fred Frederick, Santa Monica, Calif.			7,926.80
W. H. Franks, Braman			1,563.07
H. L. Fitzpatrick, Tulsa			2,111.65
Mrs. Essie Fitzpatrick, Guthrie	670.16		1,305.20
*A. Faltinson, Tulsa			222.47
A. Faltinson, Tulsa	2,937.30		3,840.10
Wirt Franklin, Ardmore	91,942.34	254,519	178,126.20
*Wirt Franklin, Ardmore	5,820.93		9,403.35
*Virginia Franklin, Ardmore			314.40
Estate of C. F. Farren, Tulsa		999.69	2,209.96
Estate of C. F. Farren, Tulsa	518.96		1,015.75
*Estate of J. H. Fleet, Ada			3,660.55
*D. F. Fleet Ada			3,523.08
*Fleets & Osborn, Ada			17,936.12
G			
Gypsy Oil Co. (on various accounts), Tulsa			7,390.46
Gypsy Oil Co., Tulsa	2,838.37		5,810.01
*James H. Gardner, Tulsa			2,592.62
J. K. Gardner, Okmulgee			2,357.81
H. H. Galbraith et al, Independence, Kans.	891.53		2,018.66
*Mrs. Mary M. Gaston, Newkirk			1,733.71
Graham Mineral Trust Co., Ardmore	2 378.33		4,534.40
Georgia Oil & Gas Co., Capon	2,441.28		3,601.33
M. Gorman trustee, Ardmore			1,478.16
G. W. Gambill, Terre Haute, Ind.	1,428.53		2,444.16
C. O. Gregg, Ardmore	3,768.25		6,074.87
*Walter H. Gant Ardmore			1,788.59
*W. E. Grisso, Seminole			324,726.94
Griffin Production Co., Tulsa	1,637.05		2,501.00
Walter H. Gant, Ardmore			12,292.20
Gary Oil & Gas Co., Des Plaines, Ill.	23,411.28		40,088.91
*Estate of W. A. Graham, Tulsa			4,726.12
*Garnett Oil Corp., Winfield, Kans.	2,386.99		3,811.83
*Garner Oil Corp., 140 Locust Ave., Long Beach, Calif.			2,601.02
*H. E. Geiger, Ponca City			1,512.11
Gates Oil Co., Ardmore	10,135.16		15,339.13
*Gilliland Oil Co., Tulsa			414.63
Gilliland Oil Co., Tulsa	23,798.21		44,773.07
Gilliland Oil Co., Tulsa		18,411	1,886.63
Grimer & Gillespie, Tulsa	14,974.16		33,411.88
Charles W. Grimes, Tulsa	922.87		1,716.63
*R. E. Glover, Chickasha			3,142.49
*W. S. Glasgow, Blackwell			3,973.24
*Robert A. Granniss, 660 Madison, New York, N. Y.			1,471.38
Galvez Oil Corp., Tulsa	13,427.46	58,840	32,182.73
*E. E. Guillott, Ardmore			702.10
*Guillott & Hall, Ardmore			1,573.86
Geneva Pearl Oil & Gas Co., Ardmore	2,626.29		3,932.48
*Mary Louise Gordon, Box 447, Santa Monica, Calif.			258.45
Mary Louise Gordon, Box 447, Santa Monica, Calif.	3,326.34		6,099.05
Gilmer Oil Co., Ardmore	37,814.45		58,419.53
*I. Giddon, McLoud	12,586.75		26,525.93
*Ida Geiger, Blackwell			2,159.02
*J. M. Gillette, Tulsa	540.26		1,397.71
*J. D. and Mabel Garner, Wewoka			15,025.56
*Dorothy Goltry Light, Enid			1,003.28
*L. L. Goltry, Enid			1,003.28
*Lettie F. Goltry, Enid			1,003.28
*C. W. Goltry, Enid			3,910.02
*Edith Goltry Corleton, Little River, Kans.			1,003.28
*W. A. Goltry, Little River, Kans.			1,003.08
Goldelline Oil Corp., Oklahoma City	37,938.44		66,490.69
*A. W. Green, Duncan			2,001.56
Garvin Drilling Co., Duncan			23,488.27
Gardner Petroleum Co., Tulsa	52,370.33		94,786.12
*Winnie Gardenhire Washburn, Ardmore	2,152.95		2,310.82
Greenfield Trust Co., Rock Island, Ill.	445.34		659.29
*J. Wood Glass, Nowata	3,438.89		5,564.28
J. Wood Glass, Nowata			847.24
Glass & Weaver, Nowata			599.68
*Gorton Trust, Cement			183.72
Gorton Trust, Cement	11,232.73		18,156.00
*James W. Gerard, Tulsa			1,451.54
Earl Q. Gray, Ardmore			1,365.45
Earl Q. Gray, Ardmore			161.63
*R. W. Getzendower, Mexohachie, Tex.			621.75
R. W. Getzendower, Mexomachie, Tex.	7,521.53		12,194.77
*Ed Gardner, Depew			1,844.51

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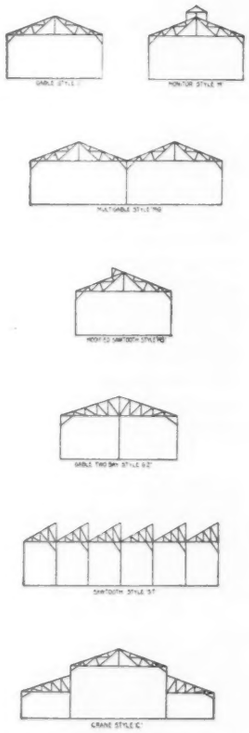

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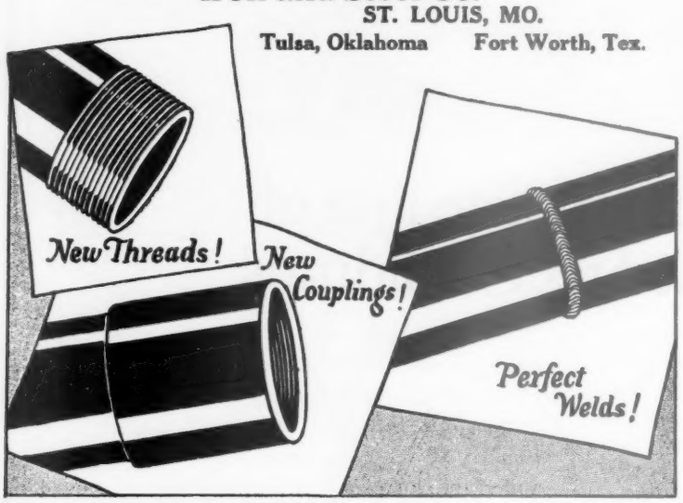

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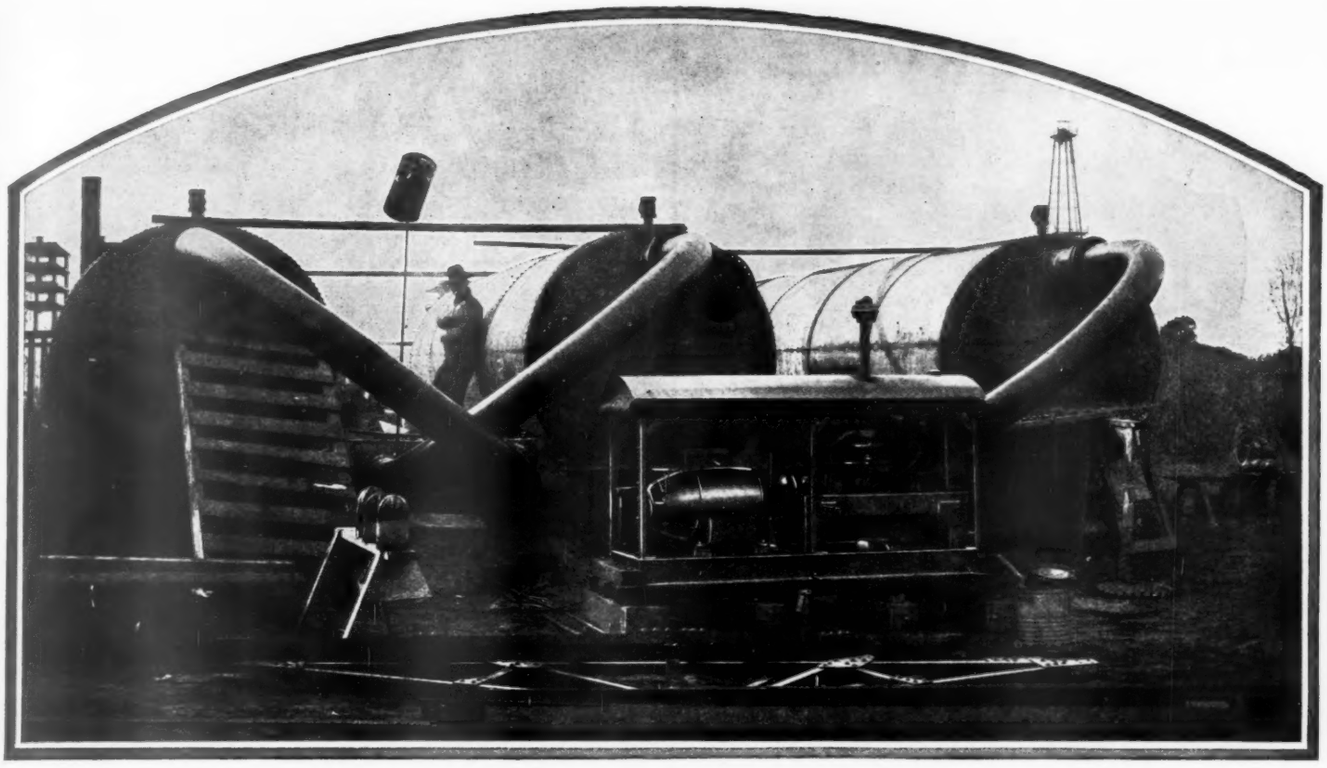
1827 ONE HUNDREDTH ANNIVERSARY 1927

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
*W. E. Grisso, Seminole	2,896.69	.....	5,819.72
Gypsy Oil Co., Tulsa	316,184.67	.....	552,702.62
Gypsy Oil Co., Tulsa	2,758,539.60	.....	5,010,513.95
Gypsy Oil Co., Tulsa	2,059.95	.....	3,390.78
Gypsy Oil Co., Tulsa	.....	3,074,328	214,222.32
Gypsy Oil Co., (for various owners), Tulsa	.....	.....	1,770.05
*Gypsy Oil Co., for A. W. Thomas, Tulsa	.....	.....	218.51
*Gypsy Oil Co., Tulsa	.....	.....	265.34
Gypsy Oil Co., Tulsa	.....	489,012	25,600.40
Gray Oil Co., Tulsa	3,576.05	.....	6,489.44
*Fannie M. Gray, Tulsa	.....	.....	330.09
*M. L. Glass, Tulsa	.....	.....	1,102.51
*M. H. Gleason, Tulsa	.....	.....	156.50
*F. E. Graham trustee, Okmulgee	.....	.....	207.59
F. L. Godfrey, Enid	.....	.....	1,037.61
*Mrs. W. B. Green Exec., Oklahoma City	112,056.00	.....	1,399.73
Gibson Zahner Oil Corp., Tulsa	1,918.92	1,375	4,292.95
Gilcrease Oil Co., Tulsa	24,718.70	.....	46,439.61
F. W. Goebel, Kansas City, Mo.	.....	.....	4,732.49
*Fred Gottspenn, Omaha, Nebr.	.....	.....	1,764.82
*F. H. Green trustee, Tulsa	.....	.....	4,716.72
*Ethel Glenny, Blackwell	.....	.....	3,282.26
James H. Graham, Bartlesville	8,752.05	.....	15,620.39
*S. B. Gerger, 37 W. Van Buren, Chicago	.....	.....	1,540.42
*A. F. Gilstrap, Wewoka	.....	.....	3,569.55
F. A. Gillespie & Sons, Tulsa	27,843.97	.....	44,804.92
*George M. Gillett, Jr., 303 Keyser, Baltimore, Md.	.....	.....	4,620.78
Genevra Oil Co., Bartlesville	.....	.....	1,609.42
Estate of W. Gaffney, Bradford, Pa.	.....	.....	3,409.21
H			
*C. C. Harmon, Nowata	.....	.....	1,625.85
*Glass & Harmon, Nowata	11,074.37	.....	18,227.01
C. C. Harmon, Nowata	.....	.....	3,256.72
C. C. Harmon, Nowata	.....	.....	1,308.10
Harland Oil Co., Walco	17,674.20	.....	28,816.57
*G. W. Hatfield, Yeager	.....	.....	1,139.41
*Mrs. Frank Hare, Oklahoma City	.....	.....	1,938.87
Helena Oil & Gas Co., Tulsa	4,161.51	.....	7,348.29
*Thomas J. Harsley, Wewoka	.....	.....	21,221.57
F. K. Haskett, trustee, Bartlesville	3,456.60	.....	6,428.69
*J. S. Hopping, Tulsa	.....	.....	1,476.71
*Arch H. Hyden, Tulsa	.....	.....	1,535.11
J. L. Haner, McKibbon Bldg., Muskogee	.....	.....	157.51
J. L. Haner, McKibbon Bldg., Muskogee	.....	.....	718.94
Haner, Bridgman & Welsh, McKibbon Bldg., Muskogee	.....	.....	1,193.52
*Norman E. Haner, Wichita, Kans.	.....	.....	72.02
H. A. Haner, Anthony, Kans.	.....	.....	72.02
J. W. Henry, Tulsa	11,962.75	.....	23,097.12
B. Fitzgerald Henry, Tulsa	.....	.....	1,014.53
Henry & Karcher, Tulsa	.....	.....	427.13
Hilltop Oil Trust, Ardmore	2,005.21	.....	3,997.30
S. B. Hibbard et al, 1732 Grand, Kansas City, Mo.	.....	.....	1,115.87
Harris & Haun, Inc. Blackwell	.....	.....	9,056.97
*B. H. Harrison, Wetumka	.....	.....	7,836.76
Hansen Oil Co., Tulsa	.....	.....	15,742.45
*Estate of Jake L. Hamon, Ardmore	895.01	.....	1,353.78
Estate of Jake L. Hamon, Ardmore	12,767.35	.....	10,622.06
*Hemlock Oil Co., Tulsa	1,927.92	.....	4,122.97
W. J. Harmon et al., Okmulgee	.....	.....	3,187.36
W. J. Harmon, et al., Okmulgee	.....	.....	510.60
*Benjamin T. Hall, Las Cruces, N. Mex.	.....	.....	4,535.95
Hillside Oil Co., Tulsa	2,824.74	.....	4,533.27
Hillside Oil Co., Tulsa	506.37	.....	916.63
*Max Hesslein, 30 Broadway, New York City	.....	.....	8,145.22
*Hamon & Colcord, Ardmore	10,043.13	.....	14,797.33
Henderson Oil Co., Marietta	2,854.48	.....	4,372.29
William Harrington, Marietta Ohio	915.14	.....	1,445.38
O. R. Howard, Tulsa	.....	.....	1,026.70
*O. R. Howard, Tulsa	21,940.34	.....	31,989.51
*W. T. Hales, Oklahoma City	.....	.....	2,342.82
W. T. Hales, Oklahoma City	73,833.31	55	119,320.86
*W. H. Hall, Duncan	.....	.....	1,343.67
Hoffer Oil Corp., Fort Worth	.....	86	6,951.83
*John J. Hardin, Duncan	.....	.....	4,865.97
L. L. Humphreys, Duncan	.....	.....	3,171.26
*L. L. Humphreys, Duncan	.....	.....	149.79
Healdton Oil & Gas Co., Enid	30,172.21	10,922	63,148.41
*Healdton Oil & Gas Co., Enid	9,437.45	.....	18,682.18
Home Gas Co., Cushing	.....	.....	42,719.52
J. A. Hull Co., Tulsa	.....	.....	7,684.91
J. A. Hull Co., Tulsa	.....	.....	1,317.12
Howard Petroleum Corp., Tulsa	2,576.53	.....	4,346.90
*Mollie V. Heenan, Ardmore	.....	.....	3,482.58
F. E. Hertzel, Warren, Pa.	.....	.....	2,216.67
*Edward B. Cox and Jake L. Hamon Jr., Ardmore	.....	.....	43,287.06
*E. N. Horton, Ardmore	.....	.....	2,993.22
*Home Stake Oil & Gas, Seminole	.....	.....	208,503.82
*Joel E. Hall, Sasakwa	.....	.....	2,860.72
Herbert Oil Co., Fort Worth	.....	.....	7,795.10
Grace Liegerot Harrison, Oklahoma City	.....	.....	1,783.28
*Hargrove Hudson, Tulsa	.....	.....	3,108.70
*W. P. Higgins, Oklahoma City	.....	.....	3,038.63
Homaokla Oil Co., Oklahoma City	36,119.66	.....	49,112.23
*Homaokla Oil Co., Oklahoma City	.....	.....	18,783.35
J. H. Henkle, Ardmore	707.72	.....	1,146.38
*N. George Hoddad, Beggs	.....	.....	3,936.54
Humble Oil & Refining Co., Houston, Tex.	437,466.54	.....	693,548.76
*Marie S. Henry, 125 West 12th St., New York City	.....	.....	1,135.36
*E. L. Halsell, Muskogee	.....	.....	4,115.13
*E. L. and Pauline Halsell Muskogee	.....	.....	738.62
*C. C. Helmerich, Tulsa	.....	.....	1,183.43
W. H. Helmerich, Tulsa	.....	.....	1,037.62
L. P. Hammond, Wichita Falls, Tex.	.....	.....	1,741.04
Harry Hanbury, Duncan	3,494.55	.....	5,372.14
*Nora Hernstadt, Ardmore	4,640.07	.....	7,460.81
*A. J. Hernstadt, Ardmore	.....	.....	98.95
Hazlett, Bradford & Frazier Bros., Eldorado, Kans.	1,429.93	.....	2,281.05
Healdton Fuel Oil Co., Fort Worth, Tex.	913.84	.....	1,505.67
*J. C. Hartley, Garber	.....	.....	12,906.57
*Elizabeth Hockstatter, La Salle, Ill.	.....	.....	16,273.46
*R. T. Harber, Seminole	.....	.....	6,483.98
R. A. Hockensmith, Okmulgee	.....	.....	3,353.80
*Claude Harber, Seminole	.....	.....	6,557.95
*Estate of A. A. Hammer, Tulsa	.....	.....	10,906.05
Hambro Oil Co., St. Louis, Mo.	5,947.84	.....	9,786.40
A. C. Brown Oil Enterprise, St. Louis, Mo.	9,145.89	.....	14,936.06
*W. J. Harrington, Coffeyville, Kans.	2,300.39	.....	4,009.53
*Horace M. Horne, Winfield, Kans.	.....	.....	5,004.27
*C. L. Henley, et al., Oklahoma City	.....	.....	1,332.59
*E. L. Henton, Chelsea	.....	.....	109.92
E. L. Henton et al., Chelsea	.....	.....	1,833.21
*W. S. Henshaw, Tonkawa	.....	.....	1,110.18
*Richard Hughes	.....	.....	1,264.06
L. C. Harris, Rising Sun, Ind.	.....	.....	573.11
*L. C. Harris, Rising Sun, Ind.	.....	.....	171.52
*Clarence Hampton, Blackwell	.....	.....	1,058.91
W. E. Hightower, trustee, Oklahoma City	4,352.66	.....	8,121.74
Elizabeth Crockett Hayes, Oklahoma City	16,250.11	.....	29,772.70
*Elizabeth Crockett Hayes, Oklahoma City	.....	.....	173.57
*W. D. Hinton, Seneca Mo.	.....	.....	1,035.51
*Hector and Sylvia Derdeyn, Pauls Valley	.....	.....	2,872.38
*A. N. Harley, Comanche	.....	.....	1,350.56
*V. V. Harris, Oklahoma City	.....	.....	2,988.88
*M. B. Hopkins, Davenport	.....	.....	4,081.40
*A. N. Hopkins, Davenport	2,509.99	.....	5,873.38
*Alden Hopkins, Davenport	1,701.33	.....	4,081.40
*Frank M. Head, Ardmore	.....	.....	1,079.53
Hornecker, Mills & Dunegan, Tulsa	.....	.....	412.55
Highway Oil & Refining Corp., Tulsa	3,215.52	444	5,470.54
*E. R. Humphrey, Enid	.....	.....	3,005.66
*E. L. Harris, Wewoka	.....	.....	762.47
*E. L. Harris, Wewoka	779.97	.....	2,169.96
W. R. Hamilton, Dewey	.....	.....	1,185.07
H. E. Hulen Oil account, Bartlesville	.....	.....	1,057.56
*W. H. Horner, Cleveland	.....	.....	987.66
*J. V. Holt, Oklahoma City	.....	.....	944.46
*J. F. Hetherington, Oklahoma City	.....	.....	981.05
Lillie A. Heald, Tulsa	.....	.....	714.79
Harris Hays Co., Okmulgee	825.54	.....	1,211.33
Mrs. Elizabeth Hockstotter, Okmulgee	.....	.....	1,546.17



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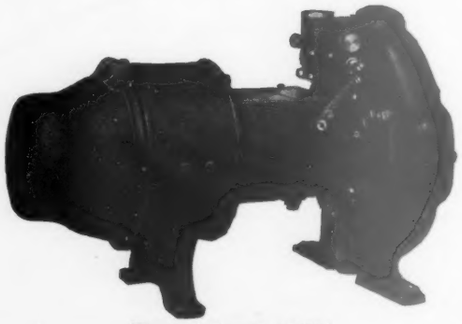

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NON-CORROSIVE—Test it in wells where ACID or other strong elements are present.

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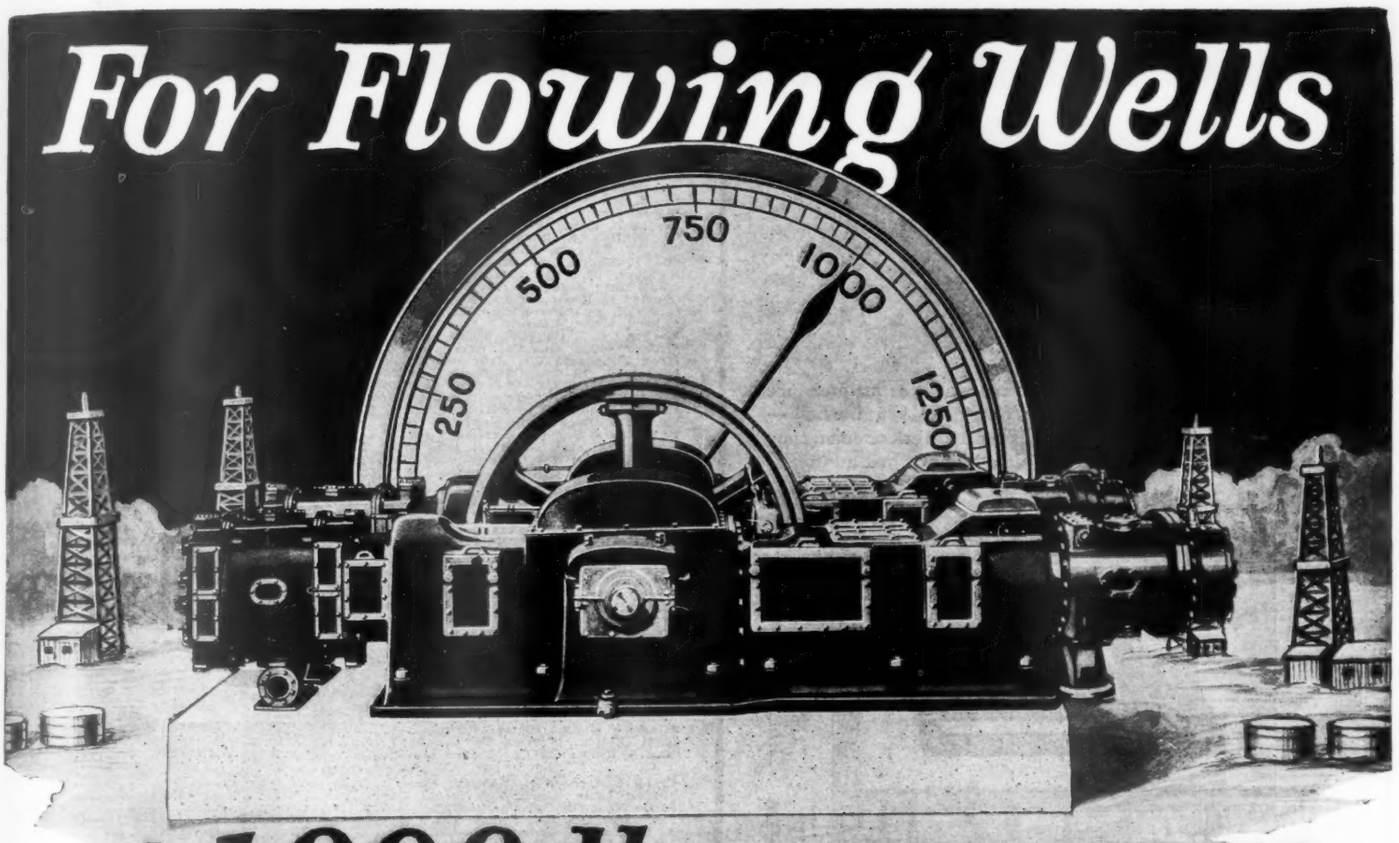
Franklin, Pennsylvania

Products that cut down your underground overhead.

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
G. W. Hilderbrandt, Oklahoma City	1,985.70		3,635.94
*Lois E. Highley, Oklahoma City			4,076.10
*Miss Mattie M. Hicks, Oklahoma City	583.11		1,400.51
*Mary E. Hafer, Blackwell			744.27
*A. L. Harnel, Blackwell			4,715.55
*Sue O. Howell, Oklahoma City			788.85
*J. M. Hamilton, Terlton			367.34
Harriuo Oil & Gas Co., Ponca City	1,167.68		1,707.11
Hiawatha Oil & Gas Co., 170 Broadway, New York City	4,955.07		6,965.74
Hinerman & Marshall, Amarillo, Tex.	2,506.37		4,058.15
*S. J. and U. L. Hernstadt, 60 Broadway, New York City	2,244.94		3,381.47
*Lewis Z. Harrison, 160 Broadway, New York City			20,325.64
*Haury, Manahan & Co., Enid			3,581.35
*C. E. Holman, Weslaco, Tex.			1,595.29
Mrs. Anetta Hopkins, Box 365, Anaheim Calif.			1,758.98
*Fanchont H. Harris, Oklahoma City			2,216.34
Hewitt Mineral Trust, Ardmore			1,245.35
*Hewitt Mineral Trust, Ardmore			2,541.81
Henderson & Holden, Eldorado, Kans.			1,019.16
James H. Huhns estate, Tulsa			1,019.67
*Terrell Hardin, Duncan	626.07		1,066.42
Healdton Petroleum Co., Ardmore			33,372.96
*Healdton Petroleum Co., Ardmore			1,262.30
Hillsdale Oil & Gas Co., Chicago, Ill.	629.77		1,074.79
Eva Huff, Duncan			1,826.54
*J. N. Harber, Seminole			51,107.01
Halsell & Son Oil & Gas, Vinita	1,844.70	23,716	3,988.35
*Ewing Halsell, Vinita	7,790.74		14,053.20
*W. E. Halsell, Kansas City, Mo.			193.47
Hayner Petroleum Co., Tulsa	748.00		1,269.42
G. T. Hanks, Broken Arrow			1,994.02
E. P. Howell, Tulsa			10,907.71
*J. P. Hoke, Stillwater			2,008.41
T. J. Hughes, Cushing			15,406.22
*J. L. Hull, Seminole			33,502.65
*W. E. Hightower, Oklahoma City	22,798.71		44,001.41
*W. E. Hightower, Oklahoma City	2,070.25		3,817.12
*W. C. Helm, Enid			1,554.36
Harold Petroleum Co., Blackwell			42,712.57
*W. E. Harber, Seminole			14,350.36
*J. V. Holt, Tulsa			72,796.89
*E. D. Hall, Wetumka			1,665.02
Holmes Oil Co., Tulsa	3,715.65		4,920.35
*David Hotson, Enid			2,092.65
J. E. Hennessey, Okmulgee	1,119.38		2,028.77
J. E. Hennessey et al., Okmulgee			253.89
*W. E. Harber, Seminole			1,823.28
*Heffner Co., Oklahoma City	2,786.01		4,376.56
Humble Oil & Refining Co., Houston, Tex.		226,907	13,883.87
*R. A. Heffner, (Judge), Oklahoma City	2,426.69		4,266.90
*R. E. Hay, Covington	2,163.47		4,946.32
*E. L. Harris, trustee, Wewoka			1,421.53
I			
*Investors Royalty Co., Inc., Tulsa	6,233.62		10,980.99
*Indian Territory Illuminating Co., Bartlesville	1,775.78		2,813.07
Indian Territory Illuminating Co., Bartlesville	75,075.04		162,482.86
Indian Territory Illuminating Co., Bartlesville	1,204,929.40		2,439,334.01
Imperial Royalties Co., Kansas City, Mo.	23,121.71		38,896.97
Invador Oil Corp., Muskogee			5,032.49
Interstate Oil & Gas Co., Bartlesville	2,781.68		4,425.14
Ideal Oil & Gas Co., Ardmore	1,486.44		2,299.71
Iron Mountain Oil Co., Tulsa	22,638.68	22,570	38,834.34
*Iron Mountain Oil Co., Tulsa			392.99
*J. A. Ingram, Earlsboro			15,949.24
*J. A. Ingram, Earlsboro			2,606.84
*John S. Irwin, Bartlesville			1,051.69
Irwin & Miller, Bartlesville			979.09
Irwin & Miller, Bartlesville			116.44
*Allie H. Irwin, Bartlesville			1,051.69
Independent Oil & Gas Co., Tulsa	679,678.13		1,259,962.94
*Independent Oil & Gas Co., Tulsa			127.70
Iowa Oil & Refining Co., Hawarden, Iowa	976.75		13,729.18
Illinois-Oklahoma Petroleum Corp., Duncan	2,192.46	46,180	6,852.46
*Louis H. Ireland, Maramec	630.11		1,332.77
*W. R. Ingram, Oklahoma City			2,188.72
*Independent Oil & Gas Co., Tulsa	745.58		1,265.65
Illinois Oil Co., Chicago	1,187.19		1,872.70
Industrial Oil & Gas Corp., Tulsa	1,128.14		2,554.40
Iowa Petroleum Co., Davenport, Iowa	2,267.78		4,760.98
Indiana Oil & Gas Co., Tulsa	27,489.05		45,090.38
Independence Oil Co., Bartlesville	975.05		1,694.11
Interocean Oil Co., Tulsa	180,350.34		327,307.46
Imo Oil & Gas Co., Covington			31,416.48
Inola Oil Co., Tulsa	3,115.36		5,257.38
*O. M. Irelon, Sapulpa			175.20
O. M. Irelon, Sapulpa	5,710.91		14,189.36
J			
*L. B. Jackson, Sapulpa			12,333.65
L. B. Jackson, Sapulpa			1,147.21
*Pearl B. Jackson, Sapulpa			2,374.52
Jackson & Nolan, Sapulpa	1,368.34		2,177.33
Mose Jackson, Tulsa			2,375.56
*Mose Jackson, Tulsa			3,211.95
Hilda B. Jorugfusen, 250 East 58th St., New York City			2,024.68
Johneda Oil Co., Tulsa	5,819.24		9,793.44
Leo Jacobs, 715 Frisco Bldg., St. Louis, Mo.	5,536.31		9,524.69
Jane Oil Co., Woolworth Bldg., Oil City, Pa.	2,874.90		4,521.56
Jarvis & Holm, Inc., Tulsa			3,531.99
*S. G. Jackson, et al., Kaw			1,557.51
Jeanette Oil Co., Chelsea	958.62		1,505.48
*Jolly & Ogg, Muskogee			18.43
Jolly & Ogg, Muskogee	300.82	51,344	5,660.91
H. L. Jolly trustee, Muskogee			1,339.86
*E. P. and J. A. Jamison, Blackwell			1,984.68
Alberta Jamison, Blackwell			620.17
Forrest L. Jamison, Blackwell			620.17
*J. N. Jones, Weleetka			1,346.09
*J. H. Jennings, Healdton			2,015.40
*R. S. Jordan, Roosevelt			4,631.09
Josey Oil Co., Tulsa	302,371.49	374,691	622,563.77
*Josey Oil Co., Tulsa			186.79
*Harry Jones, Stillwater	919.75		1,634.84
*Robert L. Jones, Bristow	4,360.04		12,632.85
*John B. Jameson, Concord, N. H.			1,995.49
E. H. Jennings Bros. Co., Pittsburgh, Pa.	15,690.36		31,820.97
E. H. Jennings Bros. Co., Pittsburgh, Pa.	1,771.75		3,293.70
*M. W. Jones, Seminole			27,247.61
Claude L. Johnson, Ponca City			1,146.81
Johnson Oil Refining Co., Chicago, Ill.	6,446.13		11,001.56
T. A. Johnston & Co., Okmulgee	2,602.25		4,365.55
*Junction Oil & Gas Co., Blackwell	4,303.21		9,836.73
*Lois R. Johnson estate, Covell, Ill.			4,154.34
*R. C. Jones & Co., Inc., Cushing	503.24		1,054.74
R. C. Jones & Co., Inc., Cushing	15,862.05		32,368.16
E. B. Jeffrey trustee, Oklahoma City	2,162.38		4,007.55
*S. P. Jones, Muskogee			1,953.13
Jarvis & Holm Inc., Tulsa	16,047.64		38,002.08
*E. H. Johnson, Wellington, Kans.			6,816.61
Jens Marie Oil Co., Ponca City			1,547.09
Judson Oil Co., Tulsa			1,228.70
Johnson Farm Oil Co., Warren, Pa.			1,158.25
Johnson & Kemmitz, Ardmore			3,548.61
K			
*A. D. Kennedy, Okmulgee	2,276.82		4,271.75
W. C. Kohlenberg, Sapulpa	1,730.22		3,063.71
*W. E. Kirby, Wetumka			1,174.70
G. M. Knapp, Monrovia, Calif.			1,214.49
Hugh King, Jr., Tulsa	3 952.64		5,726.53
Kistler Petroleum Co., Tulsa	4,410.14		8,237.35
*Kistler Petroleum Co., Tulsa	6,016.31		10,097.83
*A. M. Ketch, Oklahoma City			320.84
*Frank L. Ketch			1,253.62
*George W. Kinney, Tulsa			1,125.10
George W. Kinney, Tulsa			531.92
*Helen Walker King, guardian, Orange, Calif.			28,734.76
*Louis H. Walker, Orange, Calif.			7,183.68
*Helen Walker King, Orange, Calif.			93,334.28
C. W. Kingsbury, George Kinney, Sand Springs	985.83		1,656.43
Kingsbury, Kinney, Mansell & Tingley, Sand Springs	1,336.57		2,222.59
*Frank Knappenberg, Seminole			67,625.89

For Flowing Wells



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Bessemer developed and perfected the high pressure type ten compressor for flowing wells. Now they are at work by the dozens in the Seminole, Okla., El Dorado, Ark. and other fields. They have been proved on the job—dependable, highly efficient and economical.

The high pressure Bessemer Type Ten Compressor is built especially for flowing well with compressed gas or air at high pressures. Special air cylinders are mounted on and direct connected to, a 165 H.P. twin Type Ten bed plate, and the entire unit is constructed with a wide margin of excess strength to insure a big factor of safety at the maximum pressure capacity.

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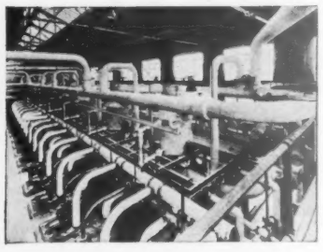

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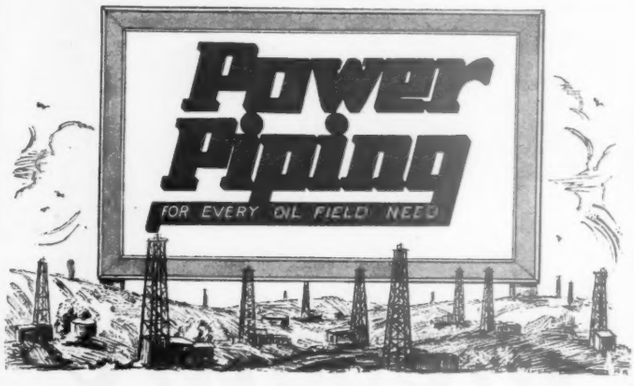

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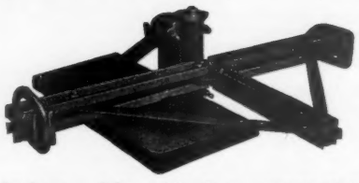
PUMPING POWERS, JACKS, STUFFING BOXES, ETC



Stuffing Box

The lightning T. S. Lubricator Stuffing Box satisfies under the most adverse conditions.

Lightning Adjustable Swing 180° Universal—2 Sizes. Standard Pattern, 4" Channel Leg, Wt. 450 Lbs.

First view shows swing used as a 180° pull back. Second view is with its legs closed to 90° and used as a common swing. The legs may be closed still further, if desired. This swing will handle any angularity of rod lines encountered.

Standard equipment with the major producers. Proven in actual service to be dependable, lasting, and adjustable in the angularity of the legs, a feature found only on the Lightning Swings.

Manufacturers of Pumping Powers, Geared and Band Wheel; Steel Grips, Polished Rod Rotators, Casingheads, Polish Rod Clamps, Rod Racks, Balanced Pumping Jacks, Centrifugal Pumps, Beam Yoke Castings for Wire Line Hangers, Beam Hangers, Sucker Rod Spiders, High Speed Elevators, Stuffing Boxes, Hooks and Grips.

Heavy Pattern 5" Leg. Wt. 600 lbs.

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Grover C. Johnson, Wichita Falls, Texas
B. V. Emery & Co., Tulsa, Oklahoma
Mid-Continent Supply Co., Fort Worth, Texas
Harry B. Shine, Houston, Texas
All Republic Supply Stores
All Putnam Supply Co. Stores
All International Supply Co. Stores

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KANSAS CITY HAY PRESS CO.
Oil Field Supplies Kansas City, Mo.

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
*Eunice L. King, Stillwater			1,771.07
*Kashoma Oil Co., Independence, Kans.			2,180.78
George Kinney trustee, Tulsa	8,622.23		11,730.63
*Kinney-Wood-McIntyre, Tulsa			130.76
King Brothers, Tulsa			1,716.01
*King Brothers, Tulsa			347.99
*Frank King, Tulsa			322.87
*Leroy R. Kiefer, Osecola, Mo.			2,443.68
O. O. Kraeer, Bartlesville			2,858.58
*J. J. Klabzuba, Prague			11,425.16
*W. E. Krummel, Bristow			1,070.66
T. G. Kelly, Sapulpa			1,157.35
*William C. and Martha Klein, Wetumka			1,533.78
*A. J. Kinkade, Shawnee			88,914.26
*J. D. Kimmel, Tulsa			4,163.93
Emma B. Kennedy exec., Okemah	3,266.15		6,770.10
*J. W. Kayser, Chickasha			2,573.81
*W. C. Killgore, Lindsay			3,443.14
*W. F. Knight, Shawnee			14,206.93
R. Keys, Okemah			3,825.35
*Lola Keys, Okemah			91.89
Charles E. Know Oil Co., Enid	2,478.91		8,928.99
*John H. and Ida King, Edinberg, Ill.			1,208.56
*Albert Kelly, Bristow			6,344.59
Keener Oil & Gas Co., Tulsa	42,610.87		67,335.74
*Keener Oil & Gas Co., Tulsa			4,132.90
Knox Petroleum Co., Ardmore			37,285.09
Kingwood Oil Co., Okmulgee	87,545.46	512,179	178,200.60
*Kingwood Oil Co., Okmulgee	1,173.63		3,356.51
Sadie Kahn, Ardmore	1,058.79		1,768.43
*L. D. Ketchum, Cruce			1,477.73
*M. E. Killingsworth, Seminole			14,963.55
Katy Oil & Gas Co., Bartlesville			2,340.35
Kermuli Oil Co., Tulsa			2,166.45
Koberling Oil Co., Tulsa	961.26		1,922.52
S. G. & J. L Kennedy, Tulsa	1,664.58		2,512.34
S. P. Kennedy, Bradford, Pa.	2,292.63		4,089.69
*R. R. Kisner, Enid			6,448.89
*Robert Lee Kisner, Enid			848.32
*Minnie L. Kisner,			6,448.89
*William H. Kisner, Enid			848.32
*Josephine Kisner			622.88
Kirk Oil Co., Ardmore	14,013.36	46,417	25,428.55
*Kirk Oil Co., Ardmore	271.81	1,257	476.18
Knupp Oil Co., Warren, Pa.	4,587.56		7,957.64
Kewanee Oil & Gas Co., Titusville, Pa.	746,264.49		1,376,008.23
Frank King, et al., Okmulgee			1,243.58
Frank Kell & Edward Schaffke, Electra, Tex.			3,028.14
Kimble & Reading, Beggs			361.83
*C. C. Kimble, Beggs			12,234.31
Kay Oil Co., Blackwell			1,021,872.34
Kay Oil Co., Blackwell			1,836.93
Ernest L. Kistler, Tulsa	1,451.44		2,633.88
*John C. Kunkle, Jr., Tulsa	2,340.81		4,181.26
John C. Kunkle, Jr., Tulsa			125.79
*Charles Klein, trustee, Tulsa	7,684.11		11,709.73
Kodi Oil Co., Warren, Pa.	902.72		1,378.17
Kay & Kiowa Oil Co., Tulsa	29,043.72		52,414.52
L			
*John L. Lawrence, Caldwell, Kans.			1,975.73
*L. O. Lytle, Sapulpa	865.83		1,798.94
Little Nick Oil Co., Chickasha			19,203.45
Lone Star Gas Co., Dallas, Tex.		216,042	12,766.53
A. M. Landon, Independence, Kans.	10,816.62		19,430.19
*R. E. Leavitt, Purcell			1,656.40
*S. J. Lamons, Bristow			1,541.74
*Liberty National Bank, (for Mary Cecile Cates), Oklahoma City	2,824.47		4,828.87
*Liberty Nonal Bank, (for Wirt Franklin), Oklahoma City	2,487.07		4,276.13
Large Oil Co., Bartlesville	4,625.10		11,062.09
Louvain Oil Co., Bartlesville	1,049.23		1,491.55
*E. E. Long, Prague			10,340.55
Lyons Petroleum Co., Denver, Colo.	2,534.58		4,527.00
C. H. Lebow, Tulsa	11,905.17		25,204.91
*C. H. Lebow, Tulsa	4,022.23		7,938.58
Lesh Brothers Oil Co., Wichita Falls, Tex.	1,565.54		2,067.35
Lewis R. Lewis, Tulsa	2,689.58		3,859.74
Dot L. Lovell, Marietta Ohio			1,169.07
J. A. Lovell, Marietta, Ohio			1,156.65
*W. G. Lackey Co., Tulsa			1,928.51
*Park B. Lamberton, Tulsa	1,592.90		2,792.89
J. L. Lyons Co., et al., Tulsa	921.28		1,603.34
*J. L. Lyons Co., et al., Tulsa			100.18
*L. Lyons exec., Tulsa			918.19
Leonard Petroleum Co. Washington, Pa.			1,870.27
Lowry Burns Corp., Wichita Falls, Tex.			735.43
Lowry Oil Corp., Wichita Falls, Tex.	1,595.49		2,771.31
*Bert Lackey, Chickasha			3,510.41
Little Fay Oil Co., Tulsa	30,577.58	23,079	44,892.97
Little Fay Oil Co., Tulsa			461.58
Link Oil Co., Tulsa	10,521.36		18,926.26
*Link Inv. Co., Tulsa			1,820.13
Lane Oil Production Co., Chicago, Ill.	1,942.70		3,013.76
*Joseph B. Lindsay, Tonkawa			1,613.35
*J. A. Ligon, et al., Wewoka			2,075.57
Burt and Mary Lyon, Los Gatos, Calif.	566.06		844.72
Burt and Mary Lyon, Los Gatos, Calif.			72.99
I. B. Levy, trustee, Oklahoma City	2,712.51		4,616.01
*John Lahman, Altus			16,381.85
Lawton Corporation, Oklahoma City	1,608.39		4,895.80
Charles A. Ludy, Marietta, Ohio	2,165.87		3,646.06
*Charles A. Ludy, Marietta, Ohio	537.44		988.16
J. S. Lambertson, Tulsa	849.20		1,508.43
*G. K. Laughlin, Cushing			1,794.35
Lowrey Gas Co., Coffeyville, Kans.		gas	1,263.45
*George Lesher, Maramec			2,122.62
*Mrs. A. D. Lesher, Maramec			1,407.29
*Thomas G. Lashley, Boulder, Colo.			1,904.41
*J. W. Livecey, West Tulsa			1,608.27
*H. Lytal, Henryetta			5,475.52
*C. C. Logan, Wewoka			1,427.16
*O. M. Lancaster, Los Angeles			3,057.64
Liberty Oil & Gas Co., Warren, Pa.			2,011.82
*Roy E. Lynds, Kansas City, Mo.	766.37		1,781.55
*R. W. Lohman, guardian, Alden			5,148.54
*R. W. Lohman, guardian, Alden			417.50
J. M. Leonard, Joplin, Mo.	864.18		1,267.08
Mrs. Bessie W. Lloyd, Ada	7,660.68		12,986.18
J. F. Lloyd, Ada	4,063.49		6,520.33
Ludowici-Celadon Co., Chicago, Ill.	2,118.41	14,567	3,191.63
Larkin & Reynolds, Bartlesville	2,898.38		4,679.14
Lima Oil & Gas Co., Bartlesville	2,915.44		4,414.90
*B. D. Lark, Wewoka			8,831.13
Lima Oil & Gas Co., Bartlesville			35,658.93
Lone Star Gas Co., Dallas, Tex.	19,324.24		29,682.69
Laurel Oil & Gas Co., Tulsa	50,577.00		85,100.66
Little Ed Oil Co., Tulsa	5,192.80		8,636.10
A. L. Lourie, et al., Robinson, Ill.			298.52
A. L. Lourie, et al., Robinson, Ill.			1,340.24
*E. B. Lawson, Nowata	5,297.53		8,287.22
*Mrs. E. B. Lawson, Nowata			167.17
*R. C. Lawson, Nowata	340.33		517.15
*R. C. Lawson, Nowata	763.80		1,190.89
Lawson & Whitehill, Nowata	1,901.46		3,023.81
Lawson & Griffin Production Co., Nowata	114.60		203.42
*E. C. Lawson, Co.			217.68
*L. H. Love, Ardmore	544.74		827.50
*L. H. Love, Ardmore	2,785.68	49,307	8,944.03
LeFlore Co., Gas & Electric Co.		373,677	9,304.14
*A. R. Loomis, Fort Dodge, Iowa			1,204.86
*L. A. Lummis, Bernardsville, N. J.			1,238.56
*Mary M. Lawrence, Wichita, Kans.			2,040.95
*L. H. H. Lawrence Wichita, Kans.			2,040.95
*C. H. Lebow Inc., Tulsa	796.04		1,629.79
Lambert Oil & Gas Co., Tulsa	3,854.81	6,893	7,088.92
E. J. Lambert, Tulsa	1,094.56	gas	3,659.74
*E. J. Lambert, Tulsa			80.26
*Louisiana Oil Refining Corp., Shreveport, La.			283.21

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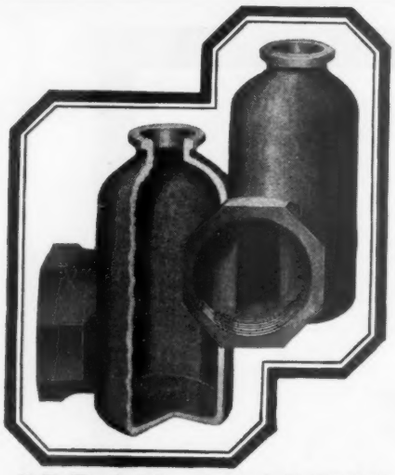

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Special High Pressure Automatic Injector

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Owing to the increasing demand in the oil fields for injectors to operate on higher pressures, this high pressure injector is recommended where boilers are operated at pressures to 200 pounds.

PENBERTHY INJECTOR COMPANY

Established 1886

Canadian Plant: WINDSOR, ONT., CAN.

1260 Holden Ave., DETROIT, MICH.

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
Louisiana Oil Refining Corp., Shreveport, La	3,847.55	15,555	7,872.91
*R. L. Lunsford, Cleveland			1,059.02
*Henry Lowrance, Sapulpa			1,138.27
Frank W. Lee, Tulsa	462.57		917.31
Lovell Oil Co., Nowata			1,732.78
Lincoln Oil & Gas Co., Tulsa	1,378.34		2,212.22
*R. M. Love, Shawnee			2,135.32
Lillian J. Misener, Tulsa			2,846.31
Lillian J. Misener, Tulsa			135.52
W. N. Loar & Co., Okmulgee			2,645.67
Lane & Wasson Co., Ardmore			3,214.18
*C. E. Lutrell, Wetumka			2,351.91
*LaForce & Ferguson, Lemon, Colo.			9,914.64
M			
*Walter W. Morton, Okmulgee			2,233.90
*E. R. Menshall, Tulsa	9,058.77		14,860.47
*E. R. Menshall, Tulsa			447.39
*H. L. Maxey, Tulsa	1,013.68		1,939.87
*Frank H. Hurphy and Tidal Refining Co., Tulsa	2,316.43		4,617.74
*E. W. McCrary, Tulsa	2,762.25		4,717.69
James McDivitt, Owasso			2,110.59
Miles Oil Co., Tulsa			1,624.99
*Joe Miller, Bradley	1,711.61		2,342.46
*R. J. Metcalf, Fort Worth			13,254.54
F. W. Merrick and R. W. Coe, Ardmore	13,877.14		21,891.45
*M. S. Mussellem, Muskogee	2,914.84		6,850.95
*H D. McCallom, Ardmore			342.45
H. D. McCallom, trustee, Ardmore	4,053.49		6,861.61
*John P. McKenna, Chickasha			2,015.94
*W. L. McCollough, Ralston			1,430.81
*R. S. Mason, Tulsa			1,379.55
Madden & Madden, Tulsa	2,439.94		3,716.02
*Frank Meadows, Jr., Wetumka			5,115.06
*Ray Meadows, Jr., Wetumka			8,029.17
*Turner Meadows, Wetumka			1,678.89
Frank Meadows, Jr., Wetumka			610.60
*F. H. Murray, Wichita, Kans.			2,108.71
Morton & Co., Bartlesville	4,906.01		13,851.84
*Monarch Royalty Co., Kansas City, Mo.			6,883.80
Mudge Oil Co., Pittsburgh, Pa.	17,953.79		22,527.50
M. & T. Oil Co., Hominy			1,339.88
McMan Oil & Gas Co., Tulsa	64,038.08		123,055.67
McMan Oil & Gas Co., Tulsa	762.24		1,333.64
D. T. Marr, Owasso	659.33		1,286.49
*J. W. Madden, Dennison, Tex.	5,107.24		9,874.75
Monarch Royalty Corp., M. C. Mo.			3,716.08
*Alice McNamara, Seminole			2,744.78
*C. B. Mills trustee, Minneapolis, Minn.	6,352.60		10,170.24
*Elizabeth McNeal, Cleveland			5,957.56
J. F. Murphy, Sapulpa			15,067.80
*D. A. McDougal, Sapulpa	2,617.70		5,340.86
*Miller Brothers, New York City			1,588.60
I. R. McQueen, Oklahoma City	4,859.02		9,449.66
*Lee Maxey, Seminole			1,939.87
*J. H. McBirney, Tulsa	1,076.70		2,065.20
Manford National Gas Co., New York City			2,570.07
Joseph E. Morrison, Tulsa	3,078.29		5,443.57
*A. Moffitt, Henryetta			89.44
A. Moffitt, Henryetta	706.20		1,579.25
*J. L. Mainard, Wewoka			6,839.43
*William M. Matthews, Dwight Bldg. Kansas City, Mo.			1,789.50
*L. O. McMillan et al., Healdton			1,319.27
*A. A. Morgan et al., Lawton			1,969.63
*E. M. Mullendore, Cleveland			19,735.72
E. M. Mullendore, Cleveland			17,155.42
*Jennie, Mullendore, Cleveland			354.61
*Sarah J. Mullendore, Cleveland			4,422.53
*Bessie Mullendore, Cleveland			401.34
Mul-Berry Oil Co., Cushing	54,570.84	250,871	136,584.64
*Million & Thomas, McAlester	3,996.33		6,426.65
*A. McMahan, Los Cruces, N. Mex.			2,029.19
*George W. Myers, Oklahoma City			1,623.11
*Magnolia Petroleum Co., Dallas, Tex.	7,639.47		19,475.55
*Magnolia Petroleum Co., Dallas, Tex.	820.95		1,719.38
*W. A. Brooks and J. E. Carson trustees, Miller Bros. Marland			45,313.37
Maire Brothers and Ebling, Bartlesville	1,966.28		2,684.90
Midget Oil & Gas Co., Republic, Mo.	1,368.76		1,902.30
Mahan Oil Co., Tulsa	7,596.88	38,414	17,915.99
H. R. McGill et al., Tulsa			2,060.63
*J. H. Maxey, Seminole			22,717.91
W. H. Moseley, Bartlesville			1,549.80
McAlester Gas & Coke Co., McAlester		26,026	1,774.34
Charles D. Matteson, St. Paul, Minn.	4,180.78		6,918.98
*Emily Mason, Las Cruces, N. Mex.	1,168.26		2,300.86
*Stacy Moore, Las Cruces, N. Mex.	1,168.26		2,300.86
*H. E. Miller, Blackwell			4,715.55
*S. H. McKee, Tonkawa			9,393.68
W. A. Moore, Tulsa			1,596.18
D. G. Maxwell, Bartlesville			846.85
D. G. Maxwell et al., Bartlesville			83.20
D. G. Maxwell, Bartlesville			782.66
D. G. Maxwell et al., Bartlesville			356.37
*T. M. McVey, Stroud			26,680.51
McKes Oil Co., Oklahoma City	1,410.63		2,285.07
*Rose Meier, Box 398, Orange Calif.			7,130.09
Makeever Brothers, 77 Journal Bldg., Boston, Mass.	1,139.98		1,905.32
Elizabeth McWilson, 1150 5th Ave., New York City			2,492.69
Celia S. Wilson, River Lodge, Franklin, Pa.			2,492.69
*E. W. McDaniel, Wewoka			1,919.49
*George Maxey, Seminole			1,939.87
J. A. McCormick, Muskogee	562.97		1,069.60
J. A. McCormick, trustee, Muskogee	881.10		1,450.28
W. D. Maiers, Tulsa	952.61		3,735.99
*J. Read Moore, Wewoka			5,149.22
Mexade Oil Co., Oklahoma City	1,716.53		2,461.15
*Cora J. Moore, Tulsa			29.50
*E. H. Moore, Tulsa	1,929.48		3,996.12
Margay Oil Corp., Tulsa	62,774.26		113,320.21
*Margay Oil Corp., Tulsa	672.26		1,291.21
*Alice Clark Myers, Santa Fe, N. Mex.			10,597.79
Moran-Jackson & Roome, Tulsa	7,848.79		10,969.58
Frank L. Moore, Tulsa	2,710.89		4,659.36
*Louisa A. Moore, Blackwell			1,661.21
Maye Oil Corp., Bristow			5,900.36
L. C. Moore, Blackwell			1,949.44
*A. McInturff et al., Okmulgee			5,656.94
C. F. Moseley, Bartlesville			5,612.36
W. C. McBride Inc., Shell Bldg., St. Louis, Mo.			9,612.82
W. C. McBride Inc., Shell Bldg., St. Louis, Mo.			3,961.26
*Joseph Marp, Bristow			1,833.80
*Mack Mandeville & Co., Chickasha			2,338.44
*Floyd McCaughtry, Chickasha			3,183.32
*Sophia S. Mussellem, Muskogee	3,521.27		7,757.45
D. B. Mason, Tulsa	21,342.28		34,454.25
D. B. Mason, Tulsa			570.91
Magnolia Petroleum Co., (in litigation), Dallas, Tex.	6,994.60		13,114.66
*Elizabeth McNeal, Cleveland			2,286.64
Meridian Gas Co., Dallas		1,164,962	93,775.24
*Mid-Continent Royalty Corp., Tulsa	1,765.58		2,873.04
Mid-Co Oil Corp., Tulsa	19,684.77		36,688.12
Mid-Co Oil Corp., Tulsa			210.41
*Mutual Holding Co., Lincoln, Nebr.			3,455.70
Est. Bernard McOwen, 510 Lafayette Ave., Buffalo, N. Y.	2,072.73		3,323.79
Myers & Twickell, Okmulgee	4,834.58		7,342.53
J. J. McGraw, Tulsa			1,568.99
*Elizabeth McNeal, Cleveland			5,366.37
C. S. McCreight, Oklahoma City			2,635.16
*C. F. Robert & Lewis Meadows (Dustin, Okla.)			17.95
*C. F. Robert & Lewis Meadows (Dustin, Okla.)			1,327.00
*T. G. Mayes, Pauls Valley			1,672.42
Mountain State Oil Co., Bartlesville	29,068.98		47,980.37
*Magnolia Petroleum Co., Dallas, Tex.	27,477.41		51,577.03
Magnolia Petroleum Co., Dallas, Tex.			176.11
Magnolia Petroleum Co., Dallas, Tex.			96.05
Pearl McAnick, Tonkawa			2,798.06
*B. F. Melton, Duncan			5,598.68
*A. L. McGill, Bartlesville			27.52
A. L. McGill, Bartlesville	1,386.03		2,083.33
*Ethan A. Mills, Bristow			1,644.10

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Superior Tube Company	Tulsa, Okla.
Atlas Supply Company	Muskogee, Okla.
Hercules Supply Company	Dallas, Texas
Keystone Pipe & Supply Company	Butler, Pa.
McEwen Bros.	Wellsville, N. Y.
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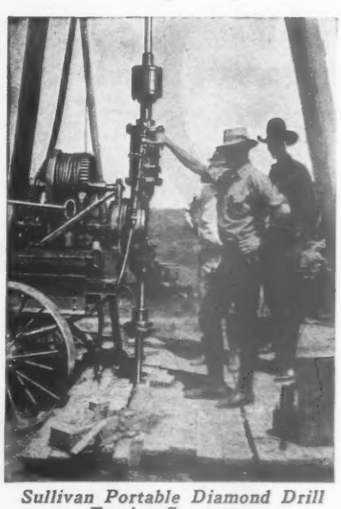

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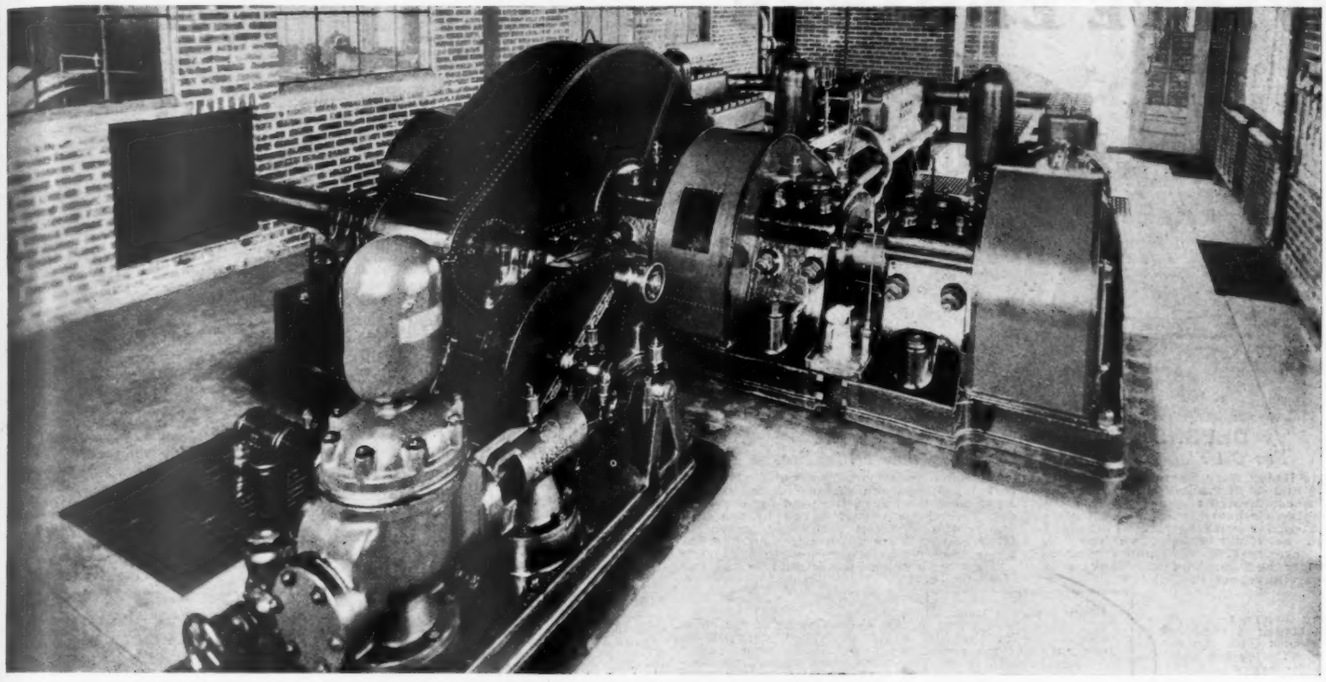
SULLIVAN MACHINERY COMPANY
88 E. Adams St., Chicago

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
J. E. Martin, Tulsa			1,745.51
*Albert and H. Meier, Enid			7,894.89
Minnehoma Oil &Gas Co., Tulsa	80,307.94	326,846	173,184.27
*C. L. McMahan Inc., Tulsa	5,886.79		16,205.77
Marland Oil Co., Ponca City		1,190,751	43,344.83
Magnolia Petroleum Co., Dallas, Tex.	2,405,809.65		4,073,656.54
Magnolia Petroleum Co., Dallas, Tex.			221,652.21
*Magnolia Petroleum Co., Dallas, Tex.	229,327.17		424,614.69
*Magnolia Petroleum Co., Dallas, Tex.			1,138.22
Marland Oil Co. of Oklahoma, Ponca City	678,791.63		1,281,067.20
Malernee Oil Co., Oklahoma City	8,805.51		17,773.68
*E. B. Martindale, Muskogee	2,420.02		4,825.65
M			
*Mid-Continent Petroleum Corp.			258.67
Mid-Continent Petroleum Corp (production)	1,849,704.85		3,433,381.51
Mid-Continent Petroleum Corp. (production)	*	Gas	109,288.62
Mid-Kansas Oil & Gas Co., Findlay, Ohio	203,196.97	209,326	369,480.77
*E. H. Mitchell, Duncan	1,320.69		2,553.27
*Stella D. Metzger, Skiatook			2,000.23
*W. M. Metzger, Skiatook			208.34
Morrison & Jackson, Sapulpa			2,774.51
Midwest Gas Co., Tulsa			14,171.61
Marileen Oil & Gas Co., Blackwell			24,118.34
*C. L. McMahon, Inc., Tulsa			1,258.34
C. L. McMahon, Inc. (production), Tulsa	27,374.48		50,097.01
F. D. Misener, Tulsa	8,488.78		14,130.24
Clint Moore, Tulsa			32,941.95
Midland Oil Co., Bartlesville			76,326.14
Midland Oil Co., Bartlesville			4,572.83
*Dr. E. H. Merkley, New York City			12,763.81
*J. W. Madden, Denison, Tex.			3,181.97
Mohawk Petroleum Co., Tulsa	208.86		2,154.94
J. H. Markham, Jr., Tulsa	25,154.62		42,480.50
*J. H. Markham, Jr., Tulsa			100.61
*Edward MacTaggart, Marietta, Ohio	897.33		1,488.95
*W. F. McDaniel, Blackwell			3,665.44
*R. E. McAnnich, Tonkawa			1,312.45
*Sarah J. Mahoney, Tonkawa			13,030.74
*A. R. Moebins, Sapulpa	784.82		1,696.70
J. E. Monroe, Tulsa	2,485.51		4,662.77
*C. E. McCafferty, Tonkawa			2,557.82
*Mid-Continent Royalties, Tulsa			2,232.07
*L. D. Melscher et al, Enid			2,069.15
N			
Eva Noble, Ardmore			6,718.99
Mrs. Hattie E. Noble, Ardmore			5,039.25
Nowata Oil and Refining Co., Tulsa			20,241.78
*New Royalty Co., Ponca City			22,675.98
*Joseph Novatney, Tonkawa			9,878.90
*J. C. Nations, Marlow			1,287.77
W. C. Norris, Tulsa			25,866.60
Nicaragua Oil Co., Freeport, Ill.	1,168.53		2,218.93
New Haven Oil Co., Bartlesville	869.68		1,352.99
*W. A. Norton, Amoret, Mo.	1,647.07		3,202.70
Norwood Oil Co., Tulsa	8,750.24		13,907.35
*R. B. North, Blackwell			13,762.19
*G. W. Nix, Blackwell			17,343.94
Nadine Oil Co., Cleveland			8,494.23
National Union Oil & Gas Co., Blackwell			71,017.80
*National Union Oil & Gas Co., Blackwell			701.43
F. M. Nelson, New York City	9,145.89		14,936.06
Sophia Nadle, Tulsa	1,588.60		2,756.15
I. Nadle, Tulsa	644.49		1,067.50
Noble Oil & Gas Co., Tulsa	5,350.51	21,778	10,859.46
*Lloyd Noble, Ardmore			2,034.66
Noble-Olson et al, Ardmore	2,364.88		3,382.66
Lloyd-Noble & Olson, Ardmore			3,004.73
National Oil and Development Co., Tulsa	8,244.72		12,972.45
National Products Co., Pittsburgh, Pa.	774.13		1,537.67
National Refining Co., Cleveland, Ohio	1,451.50	27,932	6,017.70
*Nester Oil Co., Alex			9,067.23
*Errett R. Newby, Oklahoma City			2,671.31
No-One Oil Co., Tulsa	5,905.02		10,731.79
*G. A. Nichols, Oklahoma City			20,162.13
New England Oil & Pipe Line Co., Boston, Mass.	65,691.50		117,540.82
*New England Oil & Pipe Line Co., Boston, Mass.	9,951.82		17,719.34
Chas. F. Noble et al, Tulsa			23,017.57
Chas F. Noble, Tulsa			730.98
O			
The Oklahoma Co., Philadelphia, Pa., 714 Atlantic Bldg			1,094.00
Valley Osage Oil Co., Tulsa	23,107.82		37,603.51
*Ohio Mid-Cities Corp., Wichita Falls, Tex.			7,492.66
*E. C.-Rust-Oppenheim, New York City, 129 E. 82nd			2,695.76
D. R. Owens, Chandler			5,985.18
L. E. and Winnifield Ostrander, Perkins			4,017.31
*Mary Severs Owen, Muskogee			6,241.59
Onedo Petroleum Co., Warren, Pa., 343 Penna Ave.			2,048.52
*Alexander Oliphant, Holdenville			1,139.03
Okam Gas Co., Dearing, Kans.			1,887.00
D. L. Owsley, Tulsa	1,589.37		2,577.88
*J. M. Oneal, Tecumseh	2,411.87		2,435.04
*Carl J. O'Hornett, Henryetta			936.23
Carl J. O'Hornett, Henryetta			708.58
*Sam Orr, Braman			1,024.65
*Guy B. Orcutt, Tulsa			1,928.40
Okla.-Penn Oil Co., Bartlesville			1,211.14
Owl Oil Co., Loco	7,281.35		9,262.10
Ohio Fuel Oil Co., Charleston, West Va.			679.53
*Ohio Fuel Oil Co., Charleston, West Va.			18,048.21
*S. S. Orwig, Wewoka			4,961.45
Oswego Petroleum Co., Tulsa			1,458.04
Olean Petroleum Co., Bristow			37,136.59
Osage Gas Production Co., Independence, Kans.			107,420.48
August Rust Oppenheim, New York City			3,413.82
Oklahoma Natural Gas Corp., Tulsa		Gas	72,059.42
Robt. Oglesby, Tulsa			7,647.17
*Robt. Oglesby, Tulsa			9,044.52
Oklahoma Land, Coal & Petroleum Co., Tulsa	1,090.71		1,774.43
Oregon Oil Co., Tulsa	1,050.41		1,738.65
W. G. Obins et al, Bartlesville			3,430.07
59 Osage Oil Co., Bartlesville			1,793.46
Osage Development Co., Bartlesville	5,230.17		8,558.53
Omega Oil Corporation, Shreveport, La.	474.01		891.90
*Omega Oil Corporation, Shreveport, La.			20,398.85
Oil State Petroleum Co., Enid	11,793.29		24,450.26
*Oil State Petroleum Co., Enid	6,500.52		12,531.67
Oklahoma Oil & Gas Co., Lima, Ohio	801.73		1,277.05
Ona Oil Co., Blackwell	5,211.25	234,895	25,468.72
Nellie O'Rourke, Tulsa	1,075.07		1,808.00
E. W. O'Rourke, Tulsa	1,075.07		1,808.00
T. J. O'Rourke, Tulsa	1,075.07		1,808.00
Oklavania Oil Co., Tulsa	30,007.52	5,057,771	53,166.67
*Oklavania Oil Co., Tulsa			1,414.29
Ohio Osage Oil Co., Tulsa			6,108.99
Oliphant Petroleum Co., Tulsa	1,297.07		2,108.39
Chas. Olentine, Muskogee			3,265.53
Obins and Weber, Bartlesville	1,613.36		2,410.18
Oklaken Oil Co., Binghampton, N. Y., 37 Melford	833.90		1,323.88
*Oil State Petroleum Co., Enid	999.26		1,684.73
P			
*J. A. Patterson			12,423.77
Producers & Refiners Corp., Denver, Colo.	102,518.09		183,473.43
W. B. Pine, Okmulgee		195,782,567	19,035.72
*W. B. Pine, Okmulgee			29.50
W. B. Pine, Okmulgee	333.83		580.15
Penmar Oil & Gas Co., Okmulgee			5,235.79
*Pricella and J. B. Cox, Wetumka			1,184.50
*Peerless Oil & Gas Co., Indiana Penn.	45,442.06		83,173.46
Papoose Oil Co., Tulsa	10,416.70		22,432.89
Geo. C. Probst et al, Tulsa			1,283.09
Geo. C. Probst, Tulsa			476.52
Geo. C. Probst, Tulsa			173.04
Prairie Oil & Gas, Independence, Kans.		693,357	68,145.90
Prairie Oil & Gas, Independence, Kans.		2,071,669	148,256.16
Prairie Oil & Gas, Independence, Kans.	1,618.62		2,924.44



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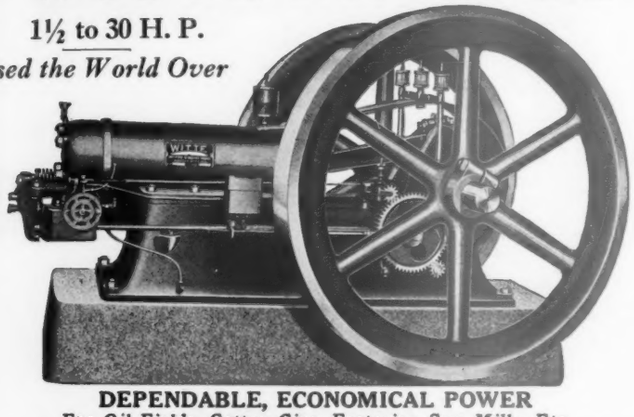

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The Witte Heavy Duty Engine is made only in the 20 and 30 H.P. sizes for heavy continuous work involving running for more than twenty-four hours at a time. Complete oiling system for every bearing so arranged that you need not shut down the oil. Geared Centrifugal Water Pump for circulating water and spraying it. Tank is in base securely supported a slight distance from the foundation. You will find this a real dependable and economical engine. Now, more than ever, the need for economical, dependable power, is felt by the producer who is faced with ever increasing labor costs. Witte Throttling Governor Engines answer this problem—with the Witte you get more engine power for less cost and less upkeep.

Throttling Governor—the original and leader of the Throttling Governor type. An even, steady speed with big surplus of power for heavy loads. The Witte Engine burns kerosene, gasoline, gas oil, distillate or gas, at a fuel cost of less than 2c an hour per H.P. Simple, trouble proof, and guaranteed for a life-time of hard work.

. Write for Free Book. Send today for my big, free catalog in colors. Tells all about the new Witte improvements and new sales terms. It's really a mechanical education to read this book, for I have written it after a life-time of practical experience. Write for it today, sure.

The Witte Engine comes completely equipped with Wico-Magneto speed and power regulator and Throttling Governor, square, protected tank and cast removable bearings. The Witte is regarded the world over as the STANDARD for real economy and life-long dependability.

No matter whether you plan to get an engine now or later—no matter whether you happen to have my old catalog—write me today, sure, for this big, new catalog and learn about all my new improvements and new terms. Do not think of buying any engine, sawing rig, or pumping outfit until you have got all these facts. Write today for free facts. No cost or obligation.

3 Hours Shipping Service

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3025 Empire Bldg., Pittsburgh, Pa.

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Large gas companies, after using "Central" Pipe, have commented upon its uniform lengths, perfect roundness, and careful beveling. These sterling qualities in "Central" reduce construction costs by speeding up the field work and, in addition, insure a tight durable line.
For complete satisfaction all around use "Central" Pipe on your next job.

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Mid-Continent: Allen, Sproull & Allen, Burk Burnett Bldg., Fort Worth, Texas
California: E. C. Saul, Monadnock Bldg., San Francisco, California.

DISTRIBUTORS: Taubman Supply Corporation, Tulsa, Oklahoma, and branches; Dunigan Tool & Supply Co., Breckenridge, Texas, and branches; Putnam Supply Company, Putnam, Texas, and branches; Louisiana Iron & Supply Co., Shreveport, La., and branches; Petroleum Equipment Co., Los Angeles, California, and branches; American Supply Co., Mexia, Texas; Standard Supply Co., Inc., Wichita Falls, Texas.

SKINNER Clamps stop leaks

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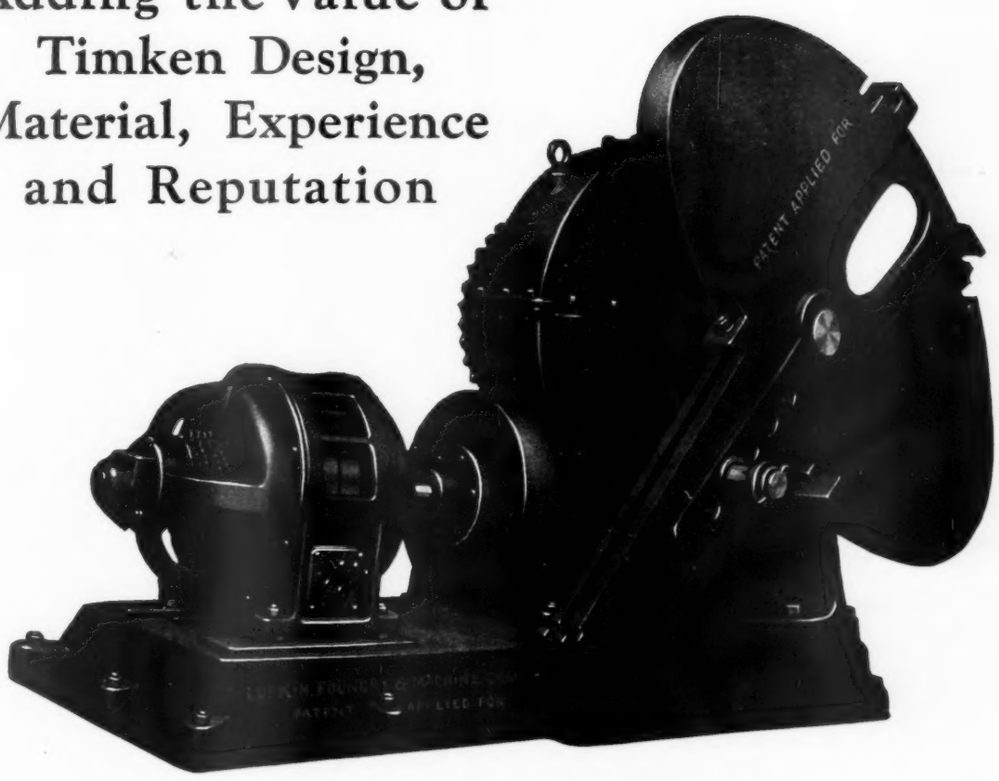
M. B. SKINNER CO., 562 Washington Boulevard, CHICAGO

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
Prairie Oil & Gas, Independence, Kans.	2,849,727.17	.....	5,163,368.64
Penrod & Simons, Okmulgee	.....	.....	6,529.49
Penrod & Thompson, Okmulgee	.....	.....	1,659.36
Penrod & Thompson, Okmulgee	.....	.....	1,692.41
Producers and Refiners Corporation, Denver, Colo.	190,910	.....	13,808.04
Geo. L. Pace, Wichita Falls	.....	.....	9,366.12
Pilgrim Petroleum Co., Fort Worth, Tex.	6,141.92	.....	7,893.94
The Petroleum Co., and M. H. Mosier, Tulsa	.....	.....	30,365.46
Petroleum Co., Tulsa	4,512.82	10,047	7,862.58
Paragon Oil Co., Tulsa	3,704.77	3,503	9,519.35
*Lenora C. Phillips, Bartlesville	1,595.85	.....	2,945.31
L. R. Page, Tulsa	1,641.77	.....	5,736.32
*L. R. Page, Tulsa	.....	.....	625.54
Pioneer Petroleum Co., Tulsa	15,944.70	.....	24,802.32
Page Bros., Tulsa	1,664.03	.....	6,603.24
Papoose Oil Co., Tulsa	22,984.66	.....	58,148.17
*F. D. Price, Okemah	.....	.....	7,112.34
*R. P. Poland, Ardmore	5,453.50	.....	9,226.49
Pollyanna Oil Co., Crookston, Minn.	.....	.....	3,312.71
Pure Oil Co., Chicago, Ill.	2,095,254.56	.....	3,688,608.80
Provident Royalties Corporation, Tulsa	.....	.....	95,405.21
Provident Royalties Corporation, Tulsa	.....	.....	27,590.32
*M. T. Pierce, Ardmore	.....	.....	2,374.78
Patsy Oil Co., Ardmore	2,586.65	.....	3,912.54
Plymouth Petroleum Co., Tulsa	11,391.64	.....	18,275.67
Producers Oil Co., Tulsa	7,601.57	.....	11,552.01
Privett Development Co., Maramec	.....	.....	5,902.19
*Mable Doll Potts, Yale	.....	.....	5,376.32
Pennok Oil Corporation, Tulsa	79,899.45	.....	40,543.18
*Fred E. Petitt, Los Angeles, 125 N. Van Ness	.....	.....	3,819.49
Paraffine Oil Co., Houston	8,912.44	.....	11,051.90
S. T. Palmer, Okemah	.....	.....	21,474.42
Chas. B. Peters Corporation, Tulsa	53,506 80	45,821	125,890.18
F. M. Pirtle, Oklahoma City	.....	.....	2,108.54
*Lucinda Pitman, Muskogee	.....	.....	1,895.74
*Adam Pence, Hitchita	.....	.....	1,764.17
*L. A. Dana Pence, Hitchita	.....	.....	1,764.17
*Pioneer Trust Co., Kansas City, Mo.	.....	.....	1,967.86
Pelham Petroleum Co., Tulsa	1,084	.....	1,696.47
Purdy Petroleum Corporation, Tulsa	1,380.66	.....	2,479.91
*Barbara E. Pendleton, Beggs	.....	.....	510.81
Philmack Oil Co., Tulsa	117,813.67	.....	17,604.84
*Philmack Oil Co., Tulsa	3,972.42	.....	8,241.22
*N. J. and Alpha Price, Okemah	.....	.....	9,782.38
Pauline Oil & Gas Co., Oklahoma City	23,230.81	2,598,125	40,705.79
*Perpetual Royalty Income Co., Rock Island, Ill.	1,845.89	.....	4,387.99
*S. R. & Martha Patterson, Davenport	885.08	.....	2,952.04
*T. R. Privett, Alma	5,890.40	.....	9,402.11
*Jennie E. Parker, Cushing	899.30	.....	1,696.33
*Est. Tom Payne, Okmulgee	8,321.37	.....	18,809.17
Tom Payne, Okmulgee	2,531.46	.....	5,510.46
*A. J. Petit, Colorado Springs, Colo.	.....	.....	2,391.90
Chas. Page trustee, Tulsa	3,694.94	.....	6,795.35
*Max A. Pishel, Tulsa	.....	.....	2,669.64
Polyanna Oil Co., Crookston, Minn.	4,977.00	.....	8,351.81
*Roy C. Poland, Ardmore	1,776.84	.....	2,967.78
Petroleum Drilling Corporation, Pawhuska	.....	.....	2,178.19
A. H. Pettigrove, Dewey	871.28	.....	1,339.81
*Mrs. Lillian M. Priboth, Blackwell	6,170.77	.....	12,290.42
*Francis F. Priboth, 6159.11 Bl.	.....	.....	12,270.16
*J. R. Parks, Muskogee	.....	.....	2,375.10
Plover Drilling Co., Bartlesville	16,375.58	.....	31,041.21
A. R. Preston trustee, Okmulgee	.....	.....	2,500.21
A. R. Preston, Okmulgee	.....	.....	568.93
*Retta Paiten, Blackwell	.....	.....	1,707.37
J. J. Perkins, Wichita Falls	1,309.68	.....	2,255.12
*Peerless Oil Production Co., Tulsa	4,362.61	.....	8,274.91
Peerless Oil Production Co, Tulsa	.....	.....	163.42
Reliable Income Royalty Co., Kansas City, Mo.	.....	.....	1,540.71
Pure Oil Co., (Gas Div.) Chicago, Ill.	.....	543,889	25,416.31
*Winnie Perkins, Davenport	.....	.....	1,891.01
Pawnee Oil Production Co., Tulsa	3,668.26	.....	6,529.03
*B. F. Priddy, Rome, Kans.	799.27	.....	1,368.29
*Pioneer Trust Co., trustee, Kansas City, Mo.	.....	.....	1,494.49
Pure Oil Co., Chicago, Ill.	.....	440,452	38,846.57
Pawhuska Oil & Gas Co., Bartlesville	.....	74,395	11,369.21
M. W. Pugh, Marlow	3,604.90	.....	4,635.58
*Howard W. Phillips, Kansas City, Mo.	3,502.13	.....	6,279.90
*Petroleum Rights Corporation, New York City	.....	.....	1,368.37
Phillips Petroleum Co., Bartlesville	1,248,106.51	.....	2,353,830.81
Plains Petroleum Co., Inc., Tulsa	20,931.81	27,160	37,235.40
W. B. Pine, Okmulgee	45,925.74	.....	82,283.89
Pawnee Osage Oil & Gas Co., Tulsa	1,631.44	.....	3,164.47
M. R. Patterson, Jamestown, N. Y.	3,851.01	.....	5,835.60
*Peerless Oil & Gas Co., Indiana, Pa.	1,331.84	.....	2,109.81
*Peerless Oil & Gas Co., Indiana, Pa.	999.26	.....	1,684.73
*C. J. Perry, Shawnee	999.26	.....	1,684.73
D. Poppan et al, Gdn., Kaw	.....	.....	2,122.95
*Phillips & Milam, Chelsea	.....	.....	234.68
Phillips & Milam, Chelsea	19,968.45	.....	30,994.02
Phillips Oil Co., Chelsea	2,247.56	.....	3,768.49
*Phillips Oil Co., Chelsea	.....	.....	304.72
Pawhuska Petroleum Corporation, Pawhuska	.....	.....	1,074.71
*W. L. Pierpont, Omaha, Nebr.	.....	.....	1,023.61
*J. F. Pantler, Tulsa	.....	.....	1,042.45
Pennsylvania Oil & Lumber Corp., Warren, Pa.	.....	.....	1,002.44
*Sylvan S. Price, Tulsa	.....	.....	1,023.59
Sylvan Price, Tulsa	.....	.....	291.61
Q			
Quinton Spelter Co., Quinton, Okla.	.....	.....	9,482.78
Quinton Relief Oil & Gas Co., Quinton	.....	.....	6,866.57
*John Quimby, Montebello, Calif., Box 326	9,810.42	.....	18,460.47
C. P. Quinlan, Tulsa	3,849.25	.....	6,058.55
*C. P. Quinlan, Tulsa	339.23	1,159,672	734.37
R			
Red Bank Oil Co., Tulsa	13,680.12	.....	21,697.48
*Frank O. Ringer, Pauls Valley	.....	.....	2,083.51
B. C. Rickets, Ardmore	.....	.....	1,182.47
W. S. Randall, Oklahoma City	12,099.51	.....	16,587.21
*H. E. Rugh, Clarion, Pa.	.....	.....	2,363.08
W. A. Rookstool, Norman	.....	.....	5,094.97
*W. A. Rookstool, Norman	.....	.....	230.68
Roxoline Petroleum Co., Oklahoma City	.....	.....	1,598.01
Rubona Oil Co., Winfield, Kans.	.....	.....	5,871.34
*L. C. Ritts, Tulsa	3,195.08	.....	6,402.01
Harry H. Rogerst, San Antonio, Tex.	.....	.....	1,563.05
Ross Oil Co., Vinita	.....	.....	2,729.92
Nellie Reed (Mrs.), Nowata	1,124.70	.....	1,771.22
*W. R. Rence, Tonkawa	.....	.....	1,357.87
*Radcliffe Oil Co., Tulsa	.....	.....	203.12
Radcliffe Oil Co., Tulsa.	853.91	.....	1,383.47
Geo. D. Roberts, Tulsa	10,359.71	.....	16,673.50
Ramona Oil and Gas, Tulsa	.....	.....	1,884.78
*Thos. C. Roberts, Ardmore	.....	.....	1,450.01
Thos. C. Roberts, Ardmore	14,780.53	.....	24,327.42
*J. B. Ralsted et al, Oklahoma City	.....	.....	2,129.92
*Ranola Oil Co., Enid	.....	.....	8,220.07
*D. Replogle Oil Co., Oklahoma City	.....	.....	144.64
*D. Replogle, Oklahoma City	.....	.....	19,714.92
*Jamie Replogle, Oklahoma City	.....	.....	2,407.48
*Miracle & Replogle, Oklahoma City	.....	.....	2,247.92
*Replogle & Johnston, Oklahoma City	.....	.....	183.54
*Est. Roy R. Reynolds, Tulsa	.....	.....	984.38
Est. Roy R. Reynolds, Tulsa	.....	.....	721.09
C. O. Ross, Coffeyville	1,427.75	.....	2,359.63
*C. O. Ross, Coffeyville	.....	.....	138.94
Raycomo Oil & Gas Co., Orrick, Mo.	.....	.....	1,304.82
Rood-Foster & Meloy, Bartlesville	1,052.25	.....	1,861.93
*Joe Ray, Bradley	.....	.....	6,481.10
L. S. & H. M. Randolph, Tulsa	624.16	.....	1,054.15
W. S. Raydune, Bowling Green, Ohio	997.94	.....	1,618.77
W. E. Reardon, Santa Monica, Calif.	5,612.21	.....	8,957.93
*Lafe Rutherford, Sapulpa	.....	.....	1,768.30

Adding the Value of Timken Design, Material, Experience and Reputation



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Wherever Timken Bearings are used there is greater capacity for thrust, shock and radial loads. There is greater output with least cost for power and lubricant. These results come only from Timken tapered construction, electric steel and *POSITIVELY ALIGNED ROLLS.*

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ROLLER BEARINGS

A. M. Lamport & Company, Inc.

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NATURAL GAS FINANCING

44 Pine Street, New York

Never an Accident

where this Regulator

has been installed

It is absolutely essential that safety precautions be taken where houses or small consumers of gas are supplied from lines under high pressure.

The Fulton House Regulator

was designed for this purpose. It is provided with an Automatic Cut-off. Should any accident happen to the line or the regulator, no danger can result to the consumer. The Automatic Cut-off provides automatic safety—*real safety!* For this reason, there has never been an accident where a Fulton Regulator has been installed.

Write for our catalogue. Also ask for our booklet containing directions for setting and operating all types of gas regulators. Gas men will find it of value.

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Gott *water can* *The BEST*

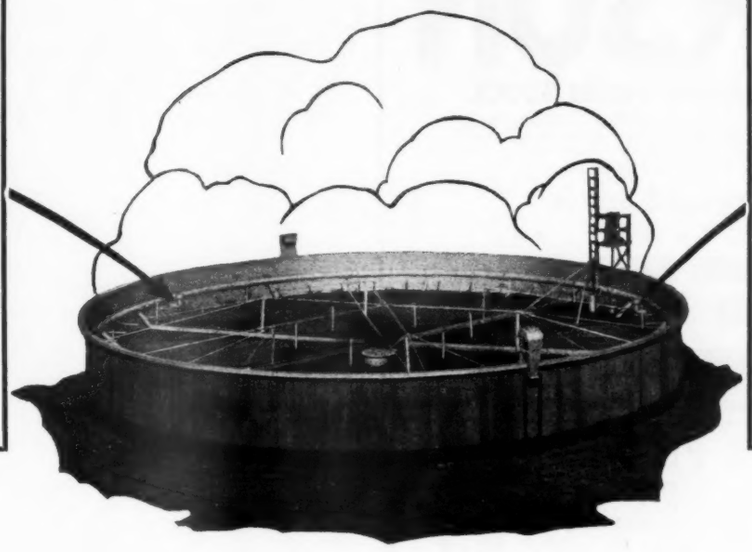
PURE WATER

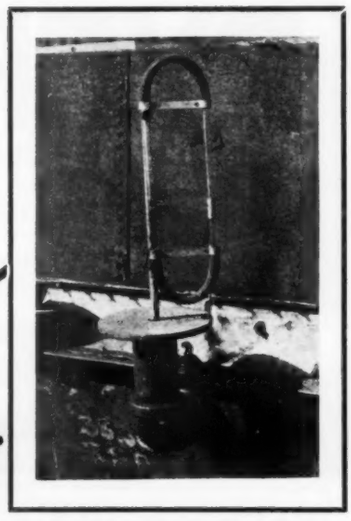
Built to last—you will always be assured of a fresh supply of pure water, when you have a GOTT. Made in 1½, 3, 5 and 10 gallon sizes. Order now from your supply store.

H. P. GOTT MFG. CO.

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
*Mrs. Nannie Rigney, Chickasha			1,954.45
*Dora C. Russell, Duncan			3,774.79
*W. E. Roberts, Nowata	827.40		1,365.79
Reiter Foster Oil Corporation, Wichita Falls	3,109.45		5,309.81
Reno Oil Co., Sistersville, W. Va.			284.52
Reno Oil Co., Sistersville, West Va.	2,862.52		4,623.42
*Sallie E. Robinson Gdn, Muskogee			2,629.77
Walter W. Richards, Wellington, Delaware			2,485.95
*Wm. Ryan, Wetumka			1,705.79
Ramsey Oil Co., Caney, Kans.			5,336.79
*J. H. Robinson, Blackwell			4,040.55
Regal Oil & Gas Co., Tulsa	6,085.70		10,632.44
*Anna Ruzek, Enid	2,085.26		2,275.63
*Replogle & Johnston, Oklahoma City			26,602.83
*Rogers & Rogers, Holdenville			17,115.50
*Frank H. Reed, Neosho, Mo.			5,195.33
Roxoline Petroleum Co., Oklahoma City	3,977.36		6,593.30
Ryan Consolidated Petr. Corp., Bartlesville	8,791.78	1,387	15,553.13
*L. Reck, Nacoma			7,082.12
*Mabis Ringling, Ardmore	3,955.45		5,975.68
John Ringling, Ardmore	1,716.52		2,461.16
Rockland Oil Co., Ardmore	35,294.03		52,817.37
Reliance Oil Co., Houston, Tex.	4,853.90		11,113.54
Reliance Oil Co., Houston, Tex.	4,886.50		7,644.66
Ruth Fuel Co., Bartlesville	1,546.16		2,364.04
*Ruby Ridgway, Ardmore			1,161.10
*J. W. Randall et al, Blackwell			17,343.94
Rogan Oil Co., Tulsa			1,676.71
H. Rowe, Denton, Tex.	1,314.73		2,295.11
Royalty Inv. Syndicate, New York City, 141 Bdwy.			5,636.87
C. M. Roberts, Okmulgee			1,447.36
*Thos. Ryan, Wetumka			12,574.61
W. R. and W. E. Ramsey, Oklahoma City			60,343.86
W. R. and W. E. Ramsey, Oklahoma City			81.28
*Riverland Co., Tulsa			26,206.66
Riverland Co., Tulsa			73,138.18
*W. H. Reading et al, Beggs			2,912.77
Reed & Harmon, Nowata	5,882.74		9,854.03
Robertson & Harmon, Nowata			1,083.12
Robertson-Glass & Harmon, Nowata			939.31
Roxana Petroleum Corporation, St. Louis, Mo.		Gas	94,565.89
Roxana Petroleum Corporation, St. Louis, Mo.	884,443.91		1,598,911.89
Roxana Petroleum for R. B. Moss, St. Louis, Mo.			4,625.66
C. E. Roth, Independence, Kans.	4,939.10		8,186.90
*C. E. Roth, Independence, Kans.			186.13
Royalty Int. for Atkins lease, Sand Springs, Okla.	9,841.86		18,565.13
E. L. Robinson-Gibson-Zahniser Oil Corp., Tulsa			17,406.43
E. L. Robinson et al, Tulsa	12,840.26		24,067.71
*D. H. Radcliffe, Tulsa			4,269.81
*M. C. Roberts Royalty Co., Oklahoma City			1,613.98
*Floyd Richmond, Blackwell			1,707.57
*Florence Richmond, Blackwell			1,707.57
*B. B. Ralph, Kansas City, Mo., 529 Highland			5,995.80
*Mattie V. Roberson, Stroud			2,003.11
*C. H. Reinhardt, Chelsea			279.88
C. H. Reinhardt, Chelsea	3,247.58		5,397.90
S			
Florence J Stearns, Okmulgee			1,296.49
Eura Scott, Los Angeles, Calif, care of Natl. Bk.			3,895.20
Savoy Oil Co., Tulsa			92,203.95
Stoner Bros., Tulsa			2,797.69
*Willie D. Smith, nee Hogan, Kansas City, Mo.			3,824.44
C. T. Smith, Okmulgee	1,858.79		3,160.09
C. T. Smith trustee, Okmulgee	633.94		1,061.23
Showalter & Cutschall, Sapulpa			483.60
*Snedden-Jackson & Wise, Sapulpa			2,014.52
N. Bert Smith, Oklahoma City	103,036.75		24,215.13
J. B. Schermerhorn, Inc., Minneapolis, Minn.	73,763.99		126,519.98
*J. B. Schermerhorn, Inc., Minneapolis, Minn.	1,864.55		3,205.26
J. B. Schermerhorn, Inc., Minneapolis, Minn.	34,424.25		57,861.55
Skelly Oil Co., Tulsa	281,816.00		37,269.93
*Skelly Oil Co., Tulsa		2,899	256.49
Skelly Co., for A. T. Ferrell, Saginaw, Mich.			202.99
Selby Oil & Gas Co., Tulsa	52,834.39		78,007.57
Selby Oil & Gas Co., Tulsa			5,163.88
Sapulpa Refining Co., Denver, Colo.	23,509.58	13,228	46,678.39
I. D. Simons, Tulsa			12,324.79
Sprague Oil Co., Ardmore	3,810.56		7,078.89
*Sun Royalty Co., Tulsa	12,223.05		21,934.31
Sheridan Oil Co., Tulsa	40,272.64	62	73,505.26
Sheridan Oil Co., trustee, Tulsa			83.50
Paul W. Smith, Tulsa			1,184.20
*Shoreline Oil & Gas Co., Tulsa			781.46
Shoreline Oil & Gas Co., Tulsa			4,786.15
*O. E. Stoner, Tulsa			1,408.42
Skelton Moore Oil Co., Bartlesville	7,341.41		12,175.93
*M. D. Smith, Ardmore	1,201.83		2,031.78
J. A. Swindler, Muskogee	1,675.86		1,799.81
J. A. Swindler, Muskogee	16,675.61		30,206.07
J. A. Swindler, Muskogee			1,016.72
*Peter Sukovoty, Bristow			3,562.70
*Mrs. J. E. Swartz, Lawton			1,053.44
*J. A. Swindler, Muskogee			1,016.72
*Sarasota Oil Co., Ardmore	4,929.70		7,347.01
P. H. Stein and M. S. Musselleim, Muskogee	667.05		1,066.49
South Bend Oil Corporation, Tulsa			22,108.49
Sun Ray Oil Corporation, Tulsa			59,687.38
*G. Serrato, Chickasha			1,422.34
*Clyde and W. D. Seay, Oscar			4,081.44
Sun Ray Oil Corporation, Tulsa	28,680.03		46,992.69
*Sun Ray Oil Corporation, Tulsa			339.09
*C. E. Sykes, Ardmore			4,266.93
T. K. Smith, Tulsa	2,932.88		4,864.66
G. B. & C. C. Suppes, Tulsa			125.51
G. B. & C. C. & R. E. Suppes, Tulsa			5,646.00
S. W. Pipe Line Co., Bristow			24,225.04
*E. D. Slough trustee, Ardmore			5,750.01
*J. W. Sloan, Tulsa	3,558.81		6,149.58
*Mrs. Lena Smith, Blackwell			3,282.28
Carl Smith, Blackwell			3,282.28
S. J. Smith, Sapulpa		25,209	2,520.93
Smith Law Petroleum Co., Duncan			3,795.15
John Swanson et al, Chanute, Kans.	983.07		1,516.80
*John Smith, Wetumka			2,785.40
*D. M. Smith, Okmulgee			1,018.84
D. M. Smith, Okmulgee			1,151.61
*H. L. Sturm, Ardmore			35.64
H. L. Sturm, Ardmore			702.71
Sturm Drilling Co., Ardmore	2,061.70		3,421.35
J. M. Stout trustee, Muskogee	673.79		1,163.53
Sango Oil & Gas Co., Muskogee			1,470.21
Preston Straight et al, Bartlesville	1,234.18		1,934.00
*Gertrude Straight, Bartlesville			101.13
Est L. S. Skelton, Okmulgee			9,886.42
*Anna Sukovaty, Bristow			3,562.71
J. J. Schock Oil & Gas Co., Okmulgee	3,289.53		6,202.93
*Ira Shurtz, Braman			1,509.73
Sidwell Drilling Co., Sapulpa	10,715.93		19,896.24
*Horace Sporleder, Davenport	570.35		1,350.51
*J. W. Scroggins, Oklahoma City			707.18
*Geo. J. Sutton, Coalgate			1,144.62
J. W. Sloan, Tulsa	3,776.94	3,465	5,799.87
*W. A. Stuart, Okmulgee			1,937.12
C. H. Schoenfeld & Son, Stroud			1,817.27
C. H. Schoenfeld & Millikin, Stroud			1,468.92
*R. J. St. Germain, Tulsa			1,047.33
*M. F. Steil, Tulsa			6,431.46
Southern Oil & Gas Co., Coffeyville, Kans.	1,778		2,640.75
*D. S. Strough, Davenport			7,013.99
*J. M. & Mary Shelton, Duncan			3,505.22
*Alice Smith Gdn, Duncan			2,429.19
*Alice Smith, Duncan			404.99
*M. R. Stone, Hawarden Iowa	3,905.92		5,491.68

This blower attached to a vent on a Wiggins Roof produces test pressure.





This water gauge attached to another vent on the same roof registers one inch of pressure for a predetermined blower rate.

Gauge pressure shows roof seal tight

THE gastight seal of the Wiggins Roof is the vital factor in its success. While the floating pan usually covers 98% or more of the oil surface, the space between the pan and the tank shell must be closed effectively or evaporation will still occur.

The test above shows conclusively that the seal is tight. Although gastighting may not be an effective way of stopping evaporation when applied to large tanks, it *is* effective when applied to a space of small and constant volume.

The actual evaporation tests made by oil companies also prove the effectiveness of the Wiggins Roof seal. There is no question as to the important savings resulting from the installation of this roof. It seals the air away from the oil, it eliminates thermo-breathing and splashover losses.

Our new booklet "Stopping Evaporation" tells the story completely and contains interesting test records. Your copy will be sent on request.

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O&GJ5-26—Gray

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Single Well Power

A combined engine and power for pumping well of 2,000 ft. or two wells of 1,000 ft. Gas or gasoline, detachable jack-head enables rods to be pulled without moving power. Most economical and efficient. Price with cut gears—$270.00 f.o.b. Parkersburg, W. Va. Weight 1400 lbs. skidded for shipment.

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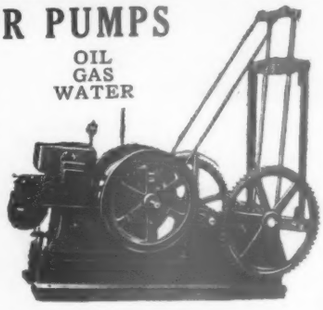

SCM

THE SPENCE MACHINE COMPANY
PARKERSBURG W. VA.

Pumping Powers, Reliable Steel Tool Boxes, Derrick Forges and Slack Tubs

The arrow points to one of the gills of the Byrne Revolving Ventilators. These slits keep it on an even keel while revolving and provide just the right amount of suction.

BYRNE

Revolving Ventilator built light, strong and compact as an airplane

Over 15,000 Byrne Ventilators are in use, both revolving and stationary—the reason they do the work better.

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TULSA SHEET METAL CO.
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The Byrne Stationary Ventilator. Note the size of the weather guard and its sturdy construction.

PIPE

Reconditioned Threaded Line Pipe

Plain End Odee Pipe in Double Lengths

Standard Rail & Steel Co.

Madison, Illinois

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
Sheeders Oil & Gas Co., Skiatook	933.45		1,479.13
*Chas A. Snyder, Sapulpa			5,053.87
*R. L. Stratton, Tulsa			2,774.69
*J. G. Spreckelmeyer, Ardmore			634.64
B. G. & C. E. Suppes, Tulsa			25,104.95
*W. F. Sessions, Hitchita			1,764.17
*O. B. Surber, Chickasha			4,979.63
*Est. C. S. Stocker, Henryetta	2,608.99		6,456.56
*Geo. W. Siebold, Muskogee	256.50		1,233.66
*Morris Schonewald et al, Tonkawa			12,922.63
*Steve Smith, Tonkawa			3,282.28
*C. B. Shaffer, Chicago, Ill.	401.39		906.66
*Seminole Oil Co., Tulsa			22,801.50
*L. O. Shannon, Stillwater			5,975.00
J. L. Selby, Muskogee			4,444.34
J. L. Selby, Muskogee			12.72
Will H. Smith trustee, Ardmore	35,867.81	275,988	84,159.25
*Will H. Smith trustee, Ardmore			3,052.29
Will H. Smith trustee, Ardmore			3,584.23
*Est. of C. R. Smith			459.76
Sun Oil Co., Tulsa	4,759.45	6,761	8,413.64
*R. T. Shearer, Sapulpa			1,606.57
Geo. P. Smith Oil Co., Dubuque, Iowa			6,402.80
*Gus Swenson, Arkansas City, Kans.			1,726.67
W. F. Scott, Long Beach, Calif.			2,345.11
*Carl D. Smith, Agra	2,696.67		4,165.22
Carl D. Smith, Agra	797.01		1,416.96
*Roy See, Tonkawa			6,535.75
*Roy See, Tonkawa			665.78
*John W. See, Tonkawa			2,029.51
*Iva See Allspaugh, Tonkawa			67.70
*Maggie J. See, Tonkawa			613.34
*Beulah Snyder, Wewoka			1,379.57
S. W. Oil & Gas & Coal Co., Independence, Kans.	1,935.79		3,909.43
Silver Moon Oil Co., Tulsa	783.92		1,368.14
Shutzer Brothers, Dewey	3,877.58		6,004.14
*Shutzer Brothers, Dewey			367.00
*John Shutzer, Cisco, Tex.			219.51
Shutzer Brothers, Cisco, Tex.	3,906.71		5,750.22
H. L. Standeven and J. S. Terry, Tulsa	1,060.21		2,941.92
*H. L. Standeven, Tulsa			504.23
*J. K. D. Shaffer, Oklahoma City			6,054.44
Schermerhorn Oil Co., Tulsa	5,156.01	12,928	11,534.27
*Adam Sporleder, Davenport			2,534.45
Spring Oil Co., Independence, Kans	1,621.40		2,569.46
Speary Brothers & Mills, Marietta, Ohio	5,992.98		9,594.38
Speary Brothers, Marietta, Ohio			754.69
*L. O. Sparks, administrator, Oklahoma City			1,534.52
*L. O. Sparks, Oklahoma City			1,929.87
*Myrtle M. Sturgett, Signet			1,730.53
Snowden & McSweeney, New York City			30,958.25
*Curtis Smith, Chickasha			1,143.51
*H. E. Smith, Rush Springs			2,106.35
Mrs. Pauline Z. Stiefel, Fort Worth, Tex.			551.78
*William M. Smith, Chickasha			1,498.61
Delbert Seay, Waurika			2,559.63
G. J. Smith, Tulsa	45,104.30		84,702.80
G. J. Smith, Tulsa	23,353.42		42,958.68
Smith & Hanlon, Inc., Tulsa	1,638.07		2,271.92
*Smith & Hanlan, Inc., Tulsa	283.61		436.81
Robert C. Sharp, Tulsa	15,426.85		28,431.15
Robert C. Sharp, Tulsa	1,554.12		2,967.72
*L. J. Scruggs, Bristow			1,249.48
*Dave Schonwald, trustee, Blackwell			917.06
Dave Schonwald, Blackwell			3,117.30
Dave S. and Junia Schonwald			5,259.85
*Anna Schonwald, Blackwell			3,102.45
*Armin Schonwald, Blackwell			196.30
*Emanuel Schonwald, Blackwell			299.80
*Harold Schonwald, Blackwell			977.60
H. L. Spencer, Blackwell			7,760.04
Slick Oil Co., Tulsa	2,014.13		3,425.28
Sinclair Oil & Gas Co., Tulsa	3,402,519.47	1,664,726	6,605,101.58
Harris Strawn Oil Co., Ardmore			4,101.24
Simms Oil Co., Dallas, Tex.	35,551.48		67,687.70
Mary J. Steele, guardian, Duncan			1,900.82
*Mary J. Steele, Duncan			1,900.82
Steyner Oil Co., Bartlesville			1,003.37
Steyner Oil Co., Bartlesville	10,534.23		16,777.90
Superior Oil Corp., Lexington, Ky.	430,096.31	193,651	810,149.10
*Andy P. Simons, Eureka, Kans.			1,185.42
*Herman Shepard, Wewoka			2,038.36
*Silurian Oil Co., St. Louis, Mo.			24.30
Silurian Oil Co., St. Louis, Mo.			6,921.90
Silurian Oil Co., St. Louis, Mo.			135,527.12
M. B. Shufflin, Coffeyville, Kans.			4,368.07
M. B. Shufflin, Coffeyville, Kans.			144.56
J. V. Sheets, Cleveland			1,605.51
Schererhorn Young Co., Minneapolis, Minn.			4,622.24
*G. A. Simon, Tulsa	3,704.17	94,404	8,453.59
*Dr. N. Sulzberger, New York City			6,373.79
M. C. Smallwood, Elmira, N. Y.			2,770.65
Simpson Fell Oil Co., Ardmore	37,065.00		58,103.31
*Simpson Fell Oil Co., Ardmore	811.14		1,338.83
W. E. Simpson, St. Louis, Mo.	1,729.69		3,142.30
*A. O. Simpson, Ardmore	1,729.69		3,142.30
*Estate of B. A. Simpson, Ardmore	631.99		1,071.65
*Mrs. B. A. Simpson, Ardmore			36.42
Stebbins Oil & Gas Co., Tulsa	1,310.41		2,230.34
Sanders Oil Co., Tulsa	2,117.66		3,595.01
W. G. Skelly, Tulsa			5,530.31
W. G. Skelly, Tulsa			1,084.97
Snowden-Danner et al, Tulsa			4,040.33
*E. E. Slocum, Bristow			1,593.33
*Sunbeam Petroleum Co., Tulsa			861.74
Sunbeam Petroleum Co., Tulsa	1,423.63		2,431.15
*T. B. Slick, Clarion, Pa.	92,912.11		173,984.75
T. B. Slick, Clarion, Pa.	777,137.87	197,118	1,488,296.84
Tom Slick, Oklahoma City	637,404.61		1,168,133.11
*Tom Slick, Oklahoma City	11,583.97		20,269.14
J. Simons, care of Okla. Natl. Gas Corp., Tulsa		26,032	2,082.47
Standish Oil Co., Bartlesville	2,910.06		4,424.43
Standish Oil Co., Bartlesville			23.19
Jack Summers, Muskogee			7,622.08
*Fred and W. Sowards, Stroud			6,238.41
W. J. Sowards, Stroud			142.77
*Fred Sowards, Stroud			142.77
*Skelly Oil Co., Tulsa	3,420.67		6,155.55
Skelly Oil Co., Tulsa	525,261.80		890,947.61
Skelly Oil Co. for M. Cassidy, Tulsa			513.14
Skelly Oil Co. for A. T. Ferrell, Saginaw, Mich.			966.40
Skelly Oil Co. for J. L. Hamon et al, Ardmore			132.66
M. T. Smith & Son, Ardmore	38,790.37		52,618.82
Dave Schonwald, Blackwell			4,901.80
Sands Petroleum Co., Okmulgee	5,571.18		10,148.42
*Sands Petroleum Co., Okmulgee			326.44
*Bettie Simon, Oklahoma City			3,613.99
R. E. Smith, Jr., et al, Dustin			5,839.94
*Rebecca Scott, Stroud			2,310.20
Rebecca Scott, Stroud			4,052.18
*Estate of C. S. Stocker, Henryetta	1,127.57		2,273.50
*D. T. Sledge, Duncan			1,398.94
Magey & Stripe, Electra, Tex.			8,006.53
Smith & Steinberger, Tulsa			4,109.35
C. A. Steinberger, Tulsa	1,332.80		2,440.94
Sunday & Walker, Claremore			3,299.20
*Elizabeth Lee Sunday, Claremore			302.97
W. E. Sunday, Claremore			159.15
*W. E. Sunday, Claremore			486.24
*Luch B. Scott, Wewoka			4,523.15
*Mrs. Elsie E. Snyder, Wichita, Kans.			2,040.95
*Esther C. Smith Weatherly, Duncan	1,872.90		3,019.53
*William J. Sowards et al, Stroud			1,678.96
Shaffer Oil & Refining Co., Tulsa	348,863.76		729,379.03
Shaffer Oil & Refining Co. for Clare Hemmitt, Tulsa			15.47
Shaffer Oil & Refining Co. for N. S. Drake, Tulsa			98.73
Shaffer Oil & Refining Co., for Bluford W. Miller*			2,472.30
Shaffer Oil & Refining Co. for Killingsworth, Tulsa			2,431.50

A Faithful Watchdog on GUARD *against* CORROSION

Oil well metal equipment can be kept in good condition indefinitely by the adequate use of pure red-lead.

Pipe lines whether buried or above ground need the standard three-coat red-lead protection.

Tank cars are subject to every possible weather condition. Red-lead protection is a necessity.

The ideal painting combination for oil storage and run-down tanks is an undercoating of red-lead and finishing coats of white-lead.

In every division of the oil industry red-lead is protecting metal equipment from corrosion

CORROSION—enemy of iron and steel—is constantly attacking metal equipment thruout the oil industry. Oil men are alive to this fact. Sound business management demands that corrosion loss be reduced to a minimum. Oil companies want the surest, most economical protection for their metal equipment. That is why pure red-lead is the accepted protective paint for metal in the oil industry.

3 out of 5 use pure red-lead

The following investigation is convincing: A representative group of oil men were asked what paint they use for metal protection. Of the 53 who replied, 32 (or 3 out of every 5) said "pure red-lead." These oil men represent every oil field in the United States.

Dutch Boy red-lead is highly oxidized, finely ground, uniform. It provides the surest protection you can give your metal equipment. Use three coats. Pay especial attention to bolt heads, edges, and out-of-the-way corners. You will find your steel replacement costs materially reduced.

Dutch Boy red-lead is sold in both paste and liquid form. The liquid comes in the natural orange-red for next-to-metal coats, and also in greens, browns, and black for finishing coats. The paste is obtainable in orange-red, and can be shaded to dark colors.

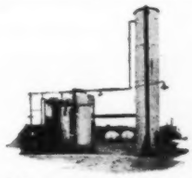
To reduce evaporation loss

Tanks and tank cars painted in light colors guarantee a large yearly saving in oil. Dutch Boy white-lead is ideal for reducing evaporation losses in this manner. And used over an undercoating of Dutch Boy red-lead it not only cuts your evaporation losses to a minimum, but gives the same weather-protection.

We shall be pleased to help you solve any question of metal protection. Specialists in our Department of Technical Service have made a study of paint for the oil industry. Their knowledge is thoro. Their assistance is free of charge. Address our nearest branch.

NATIONAL LEAD COMPANY

New York, 111 Broadway — Boston, 800 Albany St.
Buffalo, 116 Oak St. — Chicago, 900 West 18th St.
Cincinnati, 659 Freeman Ave. — Cleveland, 820 West Superior Ave.
St. Louis, 722 Chestnut St. — San Francisco, 485 California St.
Pittsburgh, National Lead & Oil Co. of Pa., 316 Fourth Ave.
Philadelphia, John T. Lewis & Bros. Co., 437 Chestnut St.



Refinery metal equipment should be inspected frequently. Gases and rust-forming elements work together to produce corrosion.

Oil company industrial plants find repair bills are reduced when red-lead is used on all metal equipment.

Tankers are constantly menaced by the rust-forming elements. Care should be taken to keep the red-lead shield intact.

Tank trucks should be inspected frequently for repainting. Bumps and scraping remove the toughest paint.

Filling station metal equipment should be painted for two reasons—looks and protection. Lead paint is ideal for both.

DUTCH BOY RED-LEAD

MYERS PUMPS FOR EVERY PURPOSE

We are manufacturers of an extensive line of Well, House and Cistern Pumps, Hand and Power Water Systems for homes, farms, country estates, public and private institutions; Self-Oiling Power Pumps and Working Heads for oil and gas fields, mill, mine or factory, railroads, highway and general contractors. Ours is an established line with over fifty years of pump building experience behind it to guarantee quality and dependability.

If you have water problems to solve, either in a large or small way, write us for information and catalog.

THE F.E.MYERS & BRO.CO. Ashland, Ohio.
MANUFACTURERS FOR OVER FIFTY YEARS OF MYERS "HONOR-BILT" PUMPS FOR EVERY PURPOSE • WATER SYSTEMS • HAY UNLOADING TOOLS AND DOOR HANGERS

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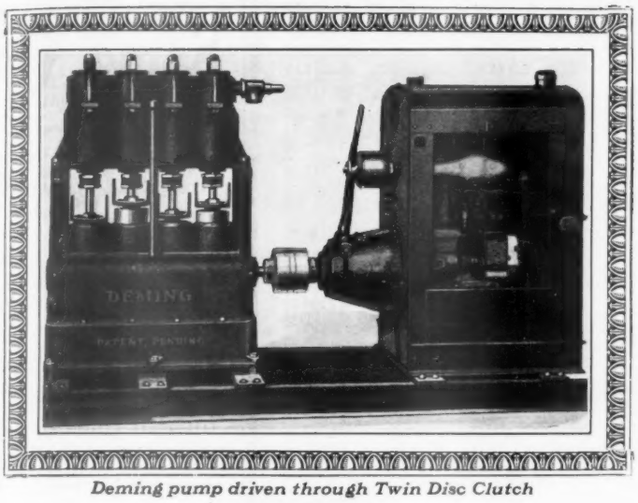
The Oil and Gas Journal—with its bright yellow cover—on your desk or in your home indicates that your opinions regarding the Oil Business are to be given preference.

Be among the best informed oil men. Always renew your subscription promptly.

The Oil and Gas Journal
Tulsa, Okla.

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
Shaffer Oil & Refining Co. for Killingsworth, Tulsa			5,616.04
Shaffer Oil & Refining Co. for T. Todd			187.28
Shaffer Oil & Refining Co. for L. Washington			232.18
Shaffer Oil & Refining Co. for C. G. Tibbens			2,537.37
Shaffer Oil & Refining Co. for Mulberry Oil Co., Cushing			1,310.98
Shaffer Oil & Ref. Co. for Iron Mountain Oil Co., Tulsa			2,015.74
Shaffer Oil & Refining Co. for Shaffer Oil & Refining Co.,* Tulsa			287.36
Shaffer Oil & Refining Co. for Shaffer Oil & Refining Co.,* Tulsa			715.94
*Walter Schroeder, Enid			7,894.89
*Martin Schroeder, Enid			7,894.89
H. William Schlingman, trustee, Tulsa			2,504.37
W. R. Somerville Oil Co., Muskogee			22,666.10
*Henry Schroeder, Enid			7,894.89
*Paul Schroeder, Enid			7,894.89
*Herbert Schroeder, Enid			7,894.89
*Caroline Schroeder, Enid			7,894.89
*H. F. Sinclair, New York City			15,562.72
Sterling Oil & Gas Co., Tulsa			28,665.94
J. A. Stager, Nowata	1,407.50		2,345.57
Stager & Cornelius, Nowata			579.60
B. E. Sharum, Ripley			18,001.35
*Marie A. Sharum, Ripley			5,082.55
T			
Texas-Okla. Investment Co., Independence, Kans.	1,162.88		1,718.92
Turman Oil Co., Tulsa	5,796.25		9,514.54
*Thurman Holmes, Wewoka			1,132.08
*Claude Holmes, Wewoka			566.04
*M. C. Holmes, Wewoka			830.52
Twin State Oil Co., Tulsa	238,572.22		373,115.14
*Thornton Sec. Corp., Wellsville, N. Y.			1,915.69
Test Oil Co., Bradford, Pa.	3,123.86		4,924.20
Tidal Oil Co., Tulsa	401,146.92		640,585.56
Tidal Oil Co., Tulsa			1,176.01
*Tidal Oil Co., Tulsa			19,563.77
Tidal Oil Co. for Cherokee-Warren O. & G. Co., Tulsa	7,120.10		10,595.44
Transcontinental Oil Co., Tulsa			36,855.45
*F. E. Tucker, Ardmore	2,473.89		3,887.47
Tidal Osage Oil Co., Tulsa			44,448.14
Jos. P. Tumulty et al, receiver, Jos. Glass, Tulsa	5,855.17		10,356.47
*Turman Oil Co., Tulsa			70.25
Turman Oil Co., Tulsa	188,041.22	77,987,313	303,475.24
Tyer Oil & Gas Co., Bartlesville	1,057.56		1,545.64
*32nd Oil & Gas Co., Ardmore	2,972.95		4,599.37
The Tulsa Co., Oklahoma City			14,064.91
Troy Oil & Gas Co., Sapulpa	3,727.99		5,781.47
*A. H. Taylor, Shawnee			1,479.81
*K. B. Turner, Eufaula			2,462.50
Thompson Oil & Gas Co., Tulsa	4,532.34	1,040,672	7,731.33
*Augusta Thompson, Ponca			1,196.39
*Charles Thompson, Ponca			1,195.37
*G. J. Taft, trustee, Garber			8,460.51
*C. F. Turner, Seminole			87,828.15
*D. M. Tyler et al, Dewey	805.75		1,254.35
D. M. Tyler et al, Dewey	1,132.64		1,793.38
*A. M. Thomas, Tonkawa			7,015.45
T. A. Thurmond, Ardmore	2,785.69	4,930,700	8,944.03
*T. A. Thurmond, Ardmore			827.50
J. W. Turley, Oklahoma City	622.02		1,196.86
*Thos. M. Thompson, Iowa City, Iowa			1,516.93
*C. A. Tilghman, Oklahoma City	931.86		1,571.74
Tiger Mountain Oil Co., Tulsa	5,704.15	102,541	16,424.44
*Trinity Royalties, Denver Colo.			13,169.72
S. F. Thompson, Okemah			3,351.59
*David P. Thornton, Muskogee			5,646.79
John C. Trefts, Buffalo, N. Y.			1,155.46
*S. W. Tyler, Ardmore			1,048.69
Tidal Oil Co., Tulsa			39,388.52
*Tidal Oil Co., Tulsa			1,112.54
*Milton Thompson, Cushing			4,080.17
H. P. Taubman and Jos. Davis, Tulsa			3,645.35
*Arthur Tarbet, Blackwell			2,700.67
Tidal Osage Oil Co., Tulsa	1,503,486.32		2,765,460.82
*Tidal Osage Oil Co., Tulsa			245.71
Texas Pacific Coal & Oil Co, Thurber, Tex.	83,966.22		105,691.58
*Carl F. Truitt, Orange, Calif.			1,449.94
*Transcontinental Oil Co., Tulsa			53.88
Transcontinental Oil Co., Tulsa	250,711.69	166,660	471,058.87
The Texas Company, Tulsa	951,055.96		1,811,673.89
*The Texas Company (prod. dept.), Tulsa	25,118.20	32,145,825	55,111.58
The Terrell Co., Terrell, Tex.	2,223.53		3,351.83
Tiger Mountain Oil Co., Tulsa			22,312.88
*Tiger Mountain Oil Co., Tulsa			50.71
R. D. Thompson, Okmulgee			1,140.38
Thompson & Jordan, Okmulgee			77.92
Thompson-Wallace et al, Okmulgee			411.84
Thompson & Jordan (special)			2,416.19
Tiger Petroleum Corp., Tulsa	8,696.18		14,808.50
*J. N. Thompson, Tulsa			131.50
*J. N. Thompson, Tulsa			3,050.82
C. H. Terwilleger, Tulsa			1,451.92
Transcontinent Royalty Co., Tonkawa			8,321.95
John H. Thacker, Kansas City, Mo.			1,533.86
*John H. Thacker, Kansas City, Mo.			276.90
Thlocco Oil Co., Tulsa	14,295.19		27,703.77
C. C. Tibbens, Tulsa	208,966.15		366,414.94
*Hazel B. Thomas, Norge			1,781.77
*Vida M. Tull, Yale			22,977.06
U			
Union Oil & Mining Co., Indianapolis, Ind.	6,879.47		12,721.73
Upp & Vick, Tulsa			682.88
O. E. Upp, Tulsa			73.95
W. L. Umburn, Weleetka			15,094.23
*W. L. Umburn, Weleetka			18.44
Gilla Umburn, Weleetka			956.29
W. L. and Gilla Umburn, Weleetka			1,082.55
*United Royalties Corp., Wichita Falls, Tex.			3,312.24
*J. B. Nmpleby, Oklahoma City	2,161.55		4,276.37
*Flored S. Urschel, Oklahoma City			545.60
Flored S. Urschel, Oklahoma City	4,558.35		9,227.29
*C. F. Urschel, Oklahoma City			545.60
C. F. Urschel, Oklahoma City	4,558.35		9,227.29
V			
*A. A. Vierson, Okmulgee	1,326.66		2,797.25
*W. M. Vickery, Blackwell			6,805.96
VanDall Brothers, Bartlesville	1,332.18		2,070.41
VanMoss Oil Co., Bartlesville	750.72		1,133.26
Vierson Oil & Gas Co., Okmulgee	2,380.29		4,923.44
*Vierson Oil & Gas Co., Okmulgee	351.14		664.35
*Sam K. Vierson, Okmulgee	9,175.66		19,486.98
Vierson Oil & Gas Co., Okmulgee		17,713	1,771.31
*Henry Vogler, Ottawa, Kans.	1,633.25		2,993.61
*S. E. Vance, Tulsa	2,633.47		5,769.98
S. E. Vance, Tulsa	774.48		1,155.25
*G. L. VanEmon, Fort Collins, Colo.			1,069.46
Ella VanEmon, Fort Collins, Colo.			58.16
*Vinita Royalty Co., Newkirk			3,370.37
Vernon Oil & Gas Co., Blackwell	8,882.79		30,098.17
*L. J. Varhaus, New York City			1,229.10
Bernard Vorhaus, New York City			261.28
Leon G. Voorhees, Ardmore			35,911.46
*Hazel D. Voorhees, Ardmore			1,852.99
*William Vance, Tulsa	724.56		1,489.00
*Mary E. Vance, Tulsa	724.56		1,489.05
Vie Oil & Gas Co., Blackwell			5,250.30
Vowell-Jackson, Sapulpa			10,508.34
Vensel Elliott & Vensel, Tulsa	1,930.13		3,244.36
*Elliott & Vensel, Tulsa			259.78
Vensel & Elliott, Tulsa			11,960.56
Valley Osage Oil Co., Tulsa	23,107.82		37,603.51
*Isaac Vandersliee, Welty			6,495.30
Verland Oil & Gas Co., Tulsa	3,156.71		4,848.52
*C. A. Vose, Oklahoma City			4,343.24
Margaret Vose, Oklahoma City			373.96
Florence Vance Longworthy, Fort Worth, Tex.			2,358.54
W			
*C. D. Williams, Ardmore			2,067.25
*E. C. Watson, Bristow			1,922.33
W. J. Wylie, Bristow			1,600.48



Deming pump driven through Twin Disc Clutch

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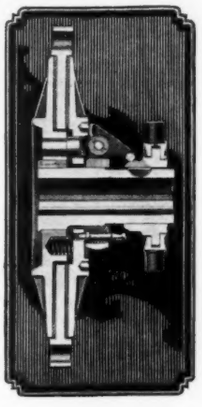
Buffalo, N. Y.—Edward W. Rode, 45 A. St.
Cleveland—James R. Howell, 6715 Quimby Ave.
Chicago—Motive Parts Co. of America, Inc., 2419 Indiana Ave.
Des Moines—Motive Parts Co. of America, Inc., 1204 W. Grand Ave.
Detroit—Whitney Brothers, 6464 Epworth Blvd.
Los Angeles—Coast Machinery Corporation, 406 E. Third St.
New York City—E. George & Co., Broome & Wooster Sts.
Pittsburgh, Pa.—Motive Parts Co. of Pa., 6314 Penn Ave.
Raleigh, N. C.—Motor & Equipment Co., 215 E. Davie St.
San Francisco—F. Somers Peterson Co., 57 California St.
Tampa, Fla.—Motive Parts Co. of Florida, Inc., 708 Twiggs St.
Tulsa, Okla.—Buda Engine Service Co. of Tulsa, Inc.

TWIN DISC CLUTCHES

Every One A Special



EVERY Twin Disc clutch installation is specially engineered by the builders of the machine and our own engineers, working together.

One of our principal requirements is *ample clutch capacity*. The clutch must *never* fail. The power plant *must* be protected from harmful shocks and strains. For these two good reasons we insist that the clutch shall have a work factor of 2. That is, it shall be capable of carrying twice the power the engine will develop.

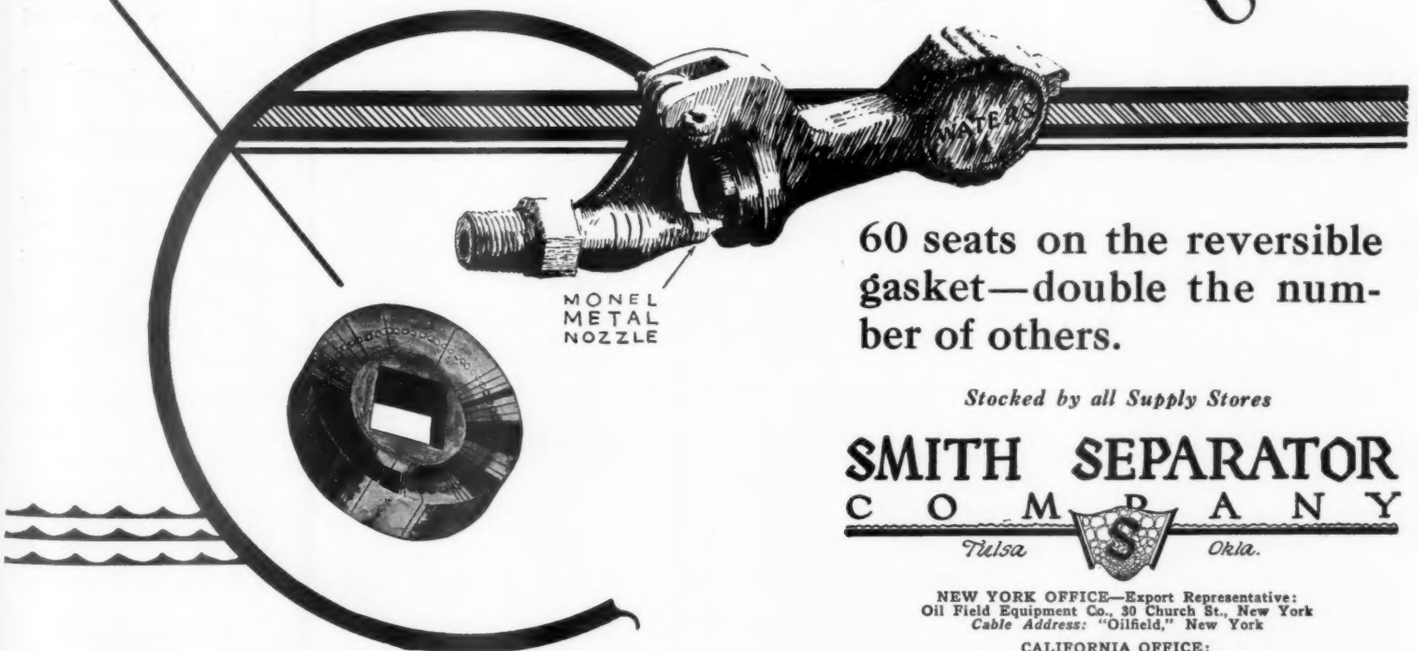
This is one of the reasons why Twin Disc clutches perform so dependably and last so long in hard service.

TWIN DISC CLUTCH COMPANY

RACINE WISCONSIN

The Waters Gauge Cock

60 SEATS



60 seats on the reversible gasket—double the number of others.

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These are parlous times for the oil producer, but we have lived through worse than this: we remember 42 cent oil in Oklahoma. So, if some of your old wells do not pay on this market, SHOOT them. The results might cheer you up. And don't forget that our shooters are old timers and EXPERTS.

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Colorado
Cross Plains
McCamey

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Cromwell
Cleveland
Drumright
Okmulgee
Seminole
Tonkawa
Tulsa
Webb City

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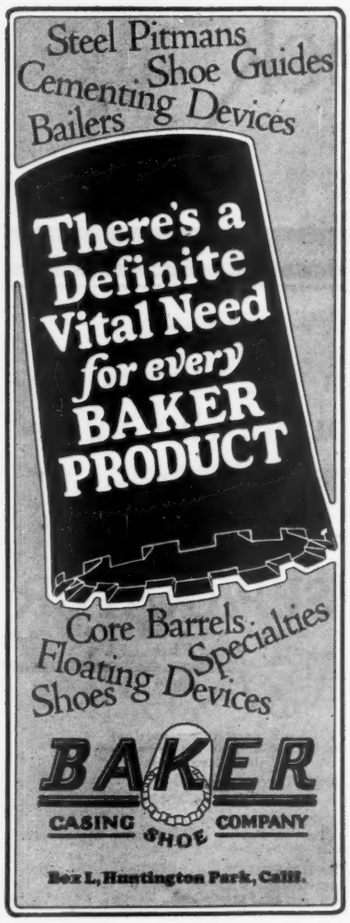

Name and Address—	Oil Barrels	Gas Thous. of Cu. Ft.	Value
*W. J. Wylie, Bristow			958.75
Watchorn Oil & Gas Co., Oklahoma City	59,970.42		67,228.14
Robert Watchorn, Oklahoma City	2,775.07		3,496.59
Thompson & Welder, Cleveland			3,299.97
*May M. Walker, Oklahoma City	1,051.62		1,852.99
Wolverine Petroleum Corp., St. Louis, Mo.	216,055.99		353,807.11
Winona Oil Co. of Delaware, Tulsa	1,005.20		2,021.87
Willis Oil & Gas Co., Cushing	1,443.66		2,575.82
F. D. and G. E. and Grace S. Woodard, Nowata			785.24
Woodard & Woodard, Nowata	1,025.28		1,610.82
Woodard & Burkett & Woodard, Nowata			2,142.42
George E. Woodard, Nowata			644.82
Mary Louise Woodard et al, Nowata			1,824.59
*George E. Woodard, Nowata			14.38
*Mary L. Woodard, Nowata			29.72
Grace S. Woodard, Nowata			382.56
T. J. Wood, Tulsa			2,909.16
*T. J. Wood, Tulsa			585.76
*Mrs. Blanche Wood, Tulsa			305.33
Western American Oil Co., Bartlesville	1,377.59	875,000	2,239.00
Westland Oil Corp., Tulsa	213,792.28		374,692.45
Westland Oil Corp., Tulsa			135.51
*H. F. Wilcox, Tulsa	982.10		1,621.12
*Roy Wood, Oklahoma City			23,756.34
Wolverine Petroleum Co., St. Louis, Mo.		328,655	17,264.79
*Wolverine Petroleum Co., St. Louis, Mo.			50.16
*Louis Windler, Enid			4,407.79
*William Windler, Enid			348.53
Mrs. T. S. Wilson, Oklahoma City			1,939.87
*B. V. Whitfield, Oklahoma City			39.59
B. V. Whitfield, Oklahoma City	1,067.43		1,857.51
*C. C. Walker, Okemah			13,480.63
Wentz Oil Corp., Ponca City	2,128.14		4,005.18
L. H. Wentz, Ponca City	367,106.72		721,651.79
Westerly Oil Co., Bartlesville	4,499.12		8,318.03
Warner Caldwell Oil Co., Titusville, Pa.	22,378.06		37,763.59
Warren-Moyor, Titusville, Pa.			342.05
*E. A. Walker, Oklahoma City	27,584.29	Gas	45,916.11
Wayne Oil Co., Tulsa	1,423.55		2,021.00
Ward Oil & Gas Co., Tulsa			8,722.18
Western Natural Gas Co., Tulsa	1,606.25		2,363.51
*J. O. and Etta Blue, Winfield	7,891.05		16,153.94
*E. M. Woodruff, Ardmore			1,815.20
*Ida Bell Woodruff, Ardmore			1,815.20
*Edith W. Welch, Newkirk			1,503.79
*Myrtle M. West, Depew			1,302.26
*Charles Welker, Yale	611.74		1,191.19
*W. W. Woodward, Ringling			4,991.35
Etta J. Weber, Bartlesville	1,580.85		2,420.26
*Wichita Royalty Co., Wichita Falls, Tex.			111.99
Western Natural Gas Co., Tulsa		49,888	1,677.95
*Max Westheimer, Ardmore		225	1,591.95
J. E. Wade, Tulsa	1,036.35		1,661.93
*Henry C. Walker, Los Angeles, Calif.			7,183.68
*S. D. Wham, Carter, Ill.			1,507.11
Western Oil Corp., Tulsa	5,380.29	6,965	8,161.59
*J. T. Wilson, Bristow			1,419.30
Art L. Walker, Oklahoma City			551.14
John C. Warnock, receiver, U. S. Cities Corp., Okmulgee	763.80		1,200.77
*C. W. Wangerin, Okmulgee			6,769.02
Wilson Petroleum Corp., Tulsa	10,889.14	34,289	14,327.81
*E. W. Whitney, Wewoka			60,705.34
*R. E. Welsh, Blackwell			1,582.46
*Ellen C. Woods, Tulsa			1,765.20
Winkler & McQueen, Duncan			14,789.62
*J. H. Woods, Jr., Tulsa			1,045.32
J. D. Welsh, Kansas City, Mo.			1,678.39
White Eagle Oil & Ref. Co., Wichita, Kans.	12,144.90	35,740	26,073.58
A. D. Whitten, Tulsa			1,670.40
H. J. Walter, Tulsa	695.37		1,026.12
J. H. Wright, Sapulpa	31,671.71		57,305.05
*James Wright, Bristow			10,044.12
*L. C. and J. L. Waltman, Stillwater			17,639.97
Wood Oil Co., Tulsa	39,476.07	28,762	89,710.23
*W. E. Wood, Okmulgee			146.68
*E. B. Wycoff, Tonkawa			1,188.74
D. D. Wertzberger, Tulsa			1,120.62
*E. E. Westervelt, Oklahoma City			1,093.36
Westervelt & Noble, Oklahoma City		125,804	12,580.57
J. H. West, Tulsa	3,323.58		6,037.51
H. F. Wilcox Oil & Gas Co., Tulsa	158,360.60		280,775.23
*H. F. Wilcox Oil & Gas Co., Tulsa	1,665.29		3,007.69
Wiser Oil Co., Bartlesville	65,298.53		102,018.90
*Wiser Oil Co., Bartlesville			363.79
*Edna Wrightsman, Tulsa			1,748.40
Wrightsman Petroleum Co., Tulsa	656.91		922.93
Wrightsman Petroleum Co., Tulsa	1,185.30		1,842.33
*Mary Wolf, Bristow			174.93
G. W. Wolf, Bristow			1,865.61
*Ruth Welsh, Blackwell			4,539.20
*J. L. Welch, Blackwell			5,044.39
Wah-Shah-She Oil Co., Bartlesville	4,084.98		7,218.88
*Washington Royalties Co., Bartlesville	4,011.12		7,741.89
Wright & Kunkel, Tulsa			1,624.01
W. T. Wright, Tulsa			113.21
W. T. Wright, Tulsa			121.19
Westheimer & Daube, Ardmore	146,249.02	40,677	237,436.88
*Westheimer & Daube, Ardmore	20,279.10		33,164.14
A. L. Welsh, Oklahoma City			8,888.96
C. L. Waite, Los Angeles, Calif.	1,306.78		1,627.66
Jennie C. Waite, Los Angeles, Calif.	1,306.78		1,629.66
*C. W. Wolcott, guardian, Coweta			4,966.43
H. G. Wilcox et al, Tulsa			6,565.20
*Elmer T. and Edward Wagner, Cement			3,111.93
Wigton & Long Co., Okmulgee			26,174.67
Western States Oil & Land Co., Denver, Colo.			73,786.25
Western States Oil & Land Co., Denver, Colo.			6,079.34
Walsh Oil Co., Tulsa	6,063.94		9,759.35
*Wolfe Oil Corp., Bristow			1,833.79
H. F. Wolf, Bristow			382.47
*Withington Oil Co., Dewey			32.34
Withington Oil Co., Dewey			2,708.70
John W. Willmott, San Diego, Calif.			1,008.32
Ethel J. Wilholt, Kansas City, Mo.	1,222.76		2,137.02
J. C. Wilholt, Kansas City, Mo.			614.33
Winona Oil Co. of Delaware, Tulsa	68,528.16		116,072.73
B. F. Whitehill, Tulsa			4,114.39
Whitehill-Donovan, Hayden & Whitehill, Tulsa			2,225.68
Whitehill & Smith, Tulsa			1,950.56
Whitehill & Weible, Tulsa			4,368.28
Whitehill-Donovan & Whitehill, Tulsa			1,324.65
Whitehill & Lawson, Tulsa			3,529.58
B. F. Whitehill, Tulsa			3,113.00
*G. M. Withington, Marietta, Ohio			2,279.03
Margaret M. Withington, Marietta, Ohio			169.86
Margaret M. Withington, Marietta, Ohio			2,298.51
Wise & Jackson, Sapulpa			5,492.45
*W. A. Wise, Sapulpa			172.64
*Mella J. Wise, Sapulpa			181.58
Wise-Jackson & Bovaird, Sapulpa	1,658.43		2,924.72
Wise-Jackson & Markham, Sapulpa	3,447.16		5,411.20
*Myrtle Wright, Muskogee			2,904.93
*Martha Naden Tuilt, nee Wright, Muskogee			156.75
*Archie Wright, Muskogee			3,057.68
F. H. Wickett, Shreveport, La.	586.63	3,986	1,205.15
*T. O. Williams, Tonkawa			1,974.84
Wittmer Oil & Gas properties, Pittsburgh, Pa.		8,133	16,257.91
*G. W. Whitfield, Okemah			3,359.37
H. S. Walden, Okmulgee			2,231.21
X			
X-Ray Oil Co., Okmulgee			2,023.09
Y			
*Albert F. Young, Jr., Brooklyn, N. Y.			772.93
*J. B. Yount, Tonkawa			6,101.96
York Oil & Gas Co., Muskogee	4,545.80		9,662.98
Z			
Zola Oil Co., Tulsa	18,745.55		29,782.63
*Effie M. Zollers, Lincoln, Neb.			6,228.32
*A. J. Zachary, Marlow			1,344.70

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Write a simple description of the used equipment you would like to sell and mail it to the Classified Wants Section. It will help you.

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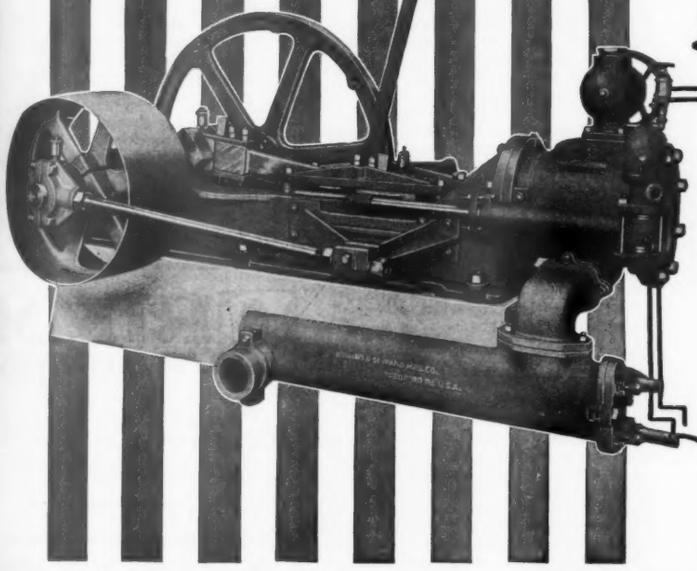
Bovaird & Seyfang STEAM DRILLING ENGINES



The new Class C-1 Steam Engine illustrated is the latest BOVAIRD & SEYFANG development in Steam Engines, and was first placed on the market in 1924—*Renewable Babbitt Liners*, balanced slide valves, out board bearing, 3" throttle valves—are a few of the many features of this engine that will meet with your approval. All parts except the cylinder, cylinder head, piston and rings are interchangeable. Made in sizes 23, 25, 28 and 30 H. P.

Descriptive bulletins and prices will be sent on request.

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A "Single Jacket" costs less to make and delivers one-half the service.

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McKim Gaskets

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Rotary or Cable Tool
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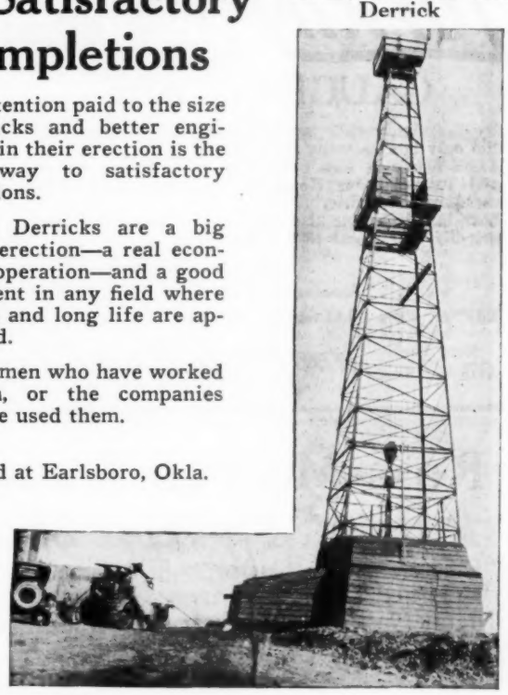

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Oil Producers and Refiners

River Clamps a Specialty

Chattanooga, Tenn., U. S. A.

BURN SLUDGE ACID WITHOUT BLENDING

(Continued from Page 188)

with flue gas. These escaping gases have no corrosive effect upon the metal surfaces of the still, as there's no moisture present.

Advantages

Thus it is seen very little difficulty arises in burning sludge in the manner now in operation at the Fort Worth refinery. The cost of mixing, circulating, and atomizing the fuel with steam is entirely eliminated. It does not force refiners using gas as a fuel to burn fuel oil in the mixture with sludge. The old disposal cost is eliminated. There is no overproduction of fuel, as the entire daily output can easily be burned.

Operating under this system entails the labor of an additional fireman for every two stills. Operating 12 stills necessitates 6 additional men for each 8-hour shift, or 18 additional men per 24-hour period. At a 45-cent per hour rate, an operating expense of $64.80 results, allowing $10.20 per day for depreciation and maintenance, the total expense of operation per day is $75. On the other hand the total gas consumption of the plant per day is reduced 1,000,000 cubic feet, a saving of $170 per day. Added to this amount is the eliminated disposal cost of $35 per day. The actual saving is then $130 daily, or $47,450 annually. If the theoretical saving of $60 per day (100 bbls. fuel oil in mixture), is taken into consideration, the net profit is $190 per day, an annual economy of $67,350.

Future Economies

In the near future it is hoped to eliminate at least a portion of this present operating expense by installing automatic stokers and conveyors to replace the present hand firing system. A great deal of research along this line is being carried on by various companies and in time will undoubtedly yield its reward.

The main point of this plan, we wish to stress, is the elimination of transportation difficulties, which undoubtedly are the greatest items of expense in dealing with acid sludge. This has been brought about by locating the agitators at the point of consumption of the sludge acid. In other words, it is simply transporting products that are easily conveyed instead of transporting the more bulky, stringy sludge which is next to impossible to convey.

GEOPHYSICAL METHODS ROUND TABLE SUBJECT

At the meeting of the board of directors of the American Institute of Mining and Metallurgical Engineers in March, a new technical committee was authorized to cover the field of geophysical methods of prospecting. D. H. McLaughlin of Harvard University was appointed chairman, the following members have accepted appointment on the committee: C. E. LeN. Arnold, Henry A. Buehler, E. DeGolyer, Frank W. DeWolf, W. O. Hotchkiss, W. Spencer Hutchinson, Frederick E. Wright, Milnor Roberts, Allen H. Rogers, Alfred C. Lane, Robert E. Tally and Scott Turner. Others have been invited to serve, and from a fairly large general committee one or more special subcommittees will be selected.

It is proposed to open the door to the widest possible discussion, Mining and Metallurgy announces. Papers on principles, practice and results are all wanted, and from those submitted the committee, in co-operation with the papers and publications committee, will select those to be printed. Informal discussion is to be encouraged, since it is felt that as yet there are many unknown factors, and only in the give and take of frank talk across the table can the truth be reached. A round table will be organized in connection with the annual meeting next February, and a session for presentation of formal papers may also be held. Next year the Society of Economic Geologists meets with the Institute, so an unusually appreciative audience will be furnished. The help and

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Larger bearing of Jaw on Bar.
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TEXAS OIL MAPS
County and District
Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

support of the stronger engineering groups engaged in geophysical prospecting has been promised. It is desired to bring mining engineers, geologists and physicists together in a single group in an endavor to measure present progress and, so far as may prove possible, to determine the fundamental principles on which the prospecting of the future must depend.

Mining has been confined almost entirely to the first mile in depth and largely to the first half mile. Few exploratory drill holes extend beyond the third half mile. Studies of geologic structure permit fairly secure inferences to be drawn, in many districts, well to the bottom of the sedimentary section, but beyond that the conclusions are less certain. Petroleum geologists have been able to follow theory farther underground because even a deep and expensive drill hole costs less than a shaft, and what is only a means for prospecting in the case of a metal mine immediately becomes a medium for production in the case of finding oil, gas, brine, sulphur, and similar minerals. The petroleum geologists have accordingly made the largest use of the new methods. While it is said to have cost an average of more than $1,000,000 to find, by geophysical methods, the newly-discovered salt domes in the Coastal plain, the fact remains that they have been found, and that one, the Nash, has been brought into production.

Magnetic methods have been used for many years in locating iron ore, the dip needle being an old instrument. Recently magnetic, electric and other methods have been employed in finding various ores and with some success, but also with some failures. Whether the fault lies in the method, the instrument, the observer, or the interpreter, the fact remains that as yet even those applying the methods are forced to speak with caution and much uncertainty surrounds the whole matter. It is also true that, while many methods have been tried, it is by no means certain that something still better may not be just around the corner.

It is felt that the time has come for a clearing up of present mysteries and for an inventory of principles, practice and results. We seem to be on the eve of a great forward step. The store of minerals that lies below the surface, the ore bodies that do not outcrop and so cannot be followed down by the miner, must be brought into production if the growing population of the earth is to be supplied with metals in increasing amounts per capita as seems to be demanded. Apparently a key has been found to the storehouse. With the united effort of the geologists, physicists and mining engineers of the operating and prospecting companies, of the Bureau of Mines, Geological Survey, Geophysical Laboratory and other research organizations, the attack may become an organized campaign instead of guerrilla warfare. To that end the Institute offers its facilities as a forum for discussion of the subject.

NEW WELLS IN ARGENTINA

According to the Buenos Aires press, two wells just brought in the Plaza Huincul Field represent the first production obtained by one of the American companies operating there. It is said that at depths of 500 and 560 meters, respectively, horizontal petroleum deposits were tapped, producing oil of high gasoline content. One is already producing 80,000 liters per 24 hours and its production is expected to increase.

PANAMA OIL RECORD

A total of 1,856,686.91 bbls. of oil and oil products were handled by the oil handling plants of the Panama Canal, at Balboa and Mount Hope, (Cristobal) in March, establishing a new record for any month in the history of the Canal, the Washington office of the Panama Canal has announced. The total included 1,820,282.29 bbls. of fuel and Diesel oil.

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for March

*Prairie Pipe Line Co.	4,526,000	146,000
Gulf Pipe Line Co.	1,730,030	55,807
Texas Pipe Line Co.	963,602	31,084
Magnolia Petroleum Co.	1,958,831	63,188
Empire Pipe Line Co.	1,224,802	39,510
Cosden Pipe Line Co.	999,649	32,247
Sinclair Pipe Line Co.	2,573,200	83,200
*Other lines	12,170,600	392,600
Total March	26,152,714	843,636
Total February	23,108,690	825,340
Difference	3,044,024	8,296

Shipments

†Prairie Pipe Line Co.	5,449,688	175,796
Gulf Pipe Line Co.	1,347,517	43,468
Texas Pipe Line Co.	560,970	18,096
Magnolia Petroleum Co.	1,260,525	40,662
Empire Pipe Line Co.	1,029,203	33,200
Cosden Pipe Line Co.	1,055,871	34,060
†Sinclair Pipe Line Co.	2,551,515	82,307
*Other lines	11,625,000	375,000
Total March	24,880,289	802,589
Total February	22,434,230	801,223
Difference	446,059	1,366

Stocks

*Prairie Oil & Gas Co.	29,300,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line and Gypsy Oil Co.	7,933,870
The Texas Company	3,927,695
Magnolia Petroleum Co.	4,585,518
Empire Pipe Line Co.	2,831,339
Cosden Pipe Line Co.	2,286,291
*Sinclair Crude Oil Pur. Co.	19,000,000
Carter Oil Co.	14,394,388
*Other lines	10,200,000
Total March	96,459,101
Total February	93,518,283
Difference	2,940,818

*Estimated. †Prairie Pipe Line shipments include Texas crude and Sinclair Pipe Line shipments include Wyoming and Texas crude. Note—Stocks do not include approximately 3,500,000 bbls. of crude oil held in storage on private tank farms and leases and approximately 2,200,000 bbls. of Texas Panhandle crude in storage in Oklahoma and Kansas.

EASTERN PIPELINES

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March:

	Feb. '27	Mar. '27
Nat. Transit.	139,482.60	163,378.72
S. W. Pa. P. L.	86,131.61	100,592.96
Eureka P. L.	360,073.04	416,053.14
Buckeye P. L. (Macksburg)	306,133.22	360,086.67
Buckeye P. L. (Cleve.)	9,641.18	12,262.69
Buckeye P. L. (Lima, etc.)	118,280.53	126,642.07
Indiana P. L.	10,308.90	10,472.58
Cumberland P. L.	253,098.35	276,896.95
N. Y. Transit	20,720.01	24,065.99
Tidewater P. L.	166,244.50	189,659.31
Pure Oil	150,656.96	175,516.93
Emery P. L.	50,806.49	57,577.05
Paragon Dev.	27,518.82	29,944.63
Pittsburgh P. L.	5,450.00	5,324.14
Stoll Ref.	11,799.41	12,195.78
Total	1,716,345.62	1,960,669.62
Daily average	61,298.06	63,247.41

Note—Indian Refining Co., also reported other receipts of 377,549.03 bbls. Paragon Refining Co. had other receipts of 105,958.30 bbls. Paragon Development had other receipts of 2,451.55 bbls. Pure Oil had other receipts of 19,243.43 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March:

	Feb. '27	Mar. '27
Nat. Transit	301,540.53	371,407.93
S. W. Pa. P. L.	332,520.45	394,577.29
Eureka P. L.	189,772.61	186,306.27
Buckeye P. L. (Macksburg)	143,321.85	162,229.20
Buckeye P. L. (Cleve.)	735.84	1,218.35
Buckeye P. L. (Lima, etc.)	766,275.55	851,500.60
Indiana P. L.	899,418.14	995,741.13
Cumberland P. L.	149,258.83	128,346.83
N. Y. Transit	134,606.31	97,577.19
Northern P. L.	149,470.27	161,689.55
Tidewater P. L.	118,783.31	108,290.33
Pure Oil	187,941.11	158,078.86
Emery P. L.	48,549.33	55,643.19
Paragon Ref.	125,377.69	103,362.66
Indian Ref.	296,638.10	329,602.47
Paragon Dev.	29,126.84	35,811.95
Pittsburgh P. L.	6,213.32	5,715.31
Total	3,878,949.93	4,147,099.11
Daily average	138,533.93	133,777.39

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky, at the close of February and March were as follows:

	Feb. '27	Mar. '27
Nat. Transit	1,009,705.83	987,165.64
S. W. Pa. P. L.	746,374.61	716,181.84
Eureka P. L.	1,326,061.87	1,438,177.29
Buckeye P. L. (Macksburg)	435,819.09	457,603.45
Buckeye P. L. (Cleve.)	76,981.10	41,573.95
Buckeye P. L. (Lima, etc.)	3,227,532.22	3,545,161.61
Indiana P. L.	584,982.76	592,303.39
Cumberland P. L.	606,176.77	583,281.33
Southern P. L.	420,485.22	458,081.93
N. Y. Transit	661,277.88	803,826.11
Northern P. L.	426,553.78	485,204.86
Pure Oil	459,193.89	498,169.44
Emery P. L.	6,932.77	7,599.54
Indian Ref.	91,489.53	141,081.41
Paragon Dev.	11,007.61	8,085.46
Pittsburgh P. L.	3,679.88	3,449.67
Total	10,119,162.36	10,794,043.63
Increase	401,159.36	674,881.27

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of February and March showing the gross stocks of the above fields:

	Feb. '27	Mar. '27
Penna.	3,708,705.44	3,731,445.01
Lima	798,170.33	810,425.15
Kentucky	1,056,674.37	1,067,209.97
Mid-Continent	4,451,184.17	5,041,917.37
Illinois	104,428.05	143,046.13
Total	10,119,162.36	10,794,043.63

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1924	1925	1926	1927
Jan.	62,638	56,831	55,630	56,209
Feb.	68,023	60,606	60,394	61,298
March	68,721	60,575	61,644	63,247
April	71,058	63,062	63,019	.....
May	63,942	59,217	60,580	.....
June	63,230	61,270	64,121	.....
July	64,208	62,639	63,206	.....
August	59,942	59,686	61,815	.....
Sept.	62,930	62,510	64,639	.....
Oct.	64,976	60,995	62,704	.....
Nov.	56,282	59,350	61,774	.....
Dec.	56,814	57,974	58,755	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1924	1925	1926	1927
Jan.	145,518	157,889	156,056	141,227
Feb.	148,732	160,863	159,488	138,534
March	147,098	154,591	150,239	133,777
April	147,611	151,429	152,371	.....
May	134,997	146,995	160,998	.....
June	143,010	149,467	160,257	.....
July	124,187	161,338	160,945	.....
August	123,120	161,740	151,929	.....
Sept.	127,325	156,719	158,915	.....
Oct.	123,170	145,388	161,132	.....
Nov.	124,400	143,582	152,668	.....
Dec.	151,392	150,162	136,428	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1925	1926	1927
Jan.	11,353,276	9,859,170	9,718,0
Feb.	11,192,924	9,579,354	10,119,1
March	11,158,297	9,438,292	10,794,0
April	11,062,082	9,805,861	.....
May	11,207,562	9,531,757	.....
June	11,093,796	9,536,904	.....
July	11,067,453	9,734,687	.....
August	10,974,481	9,668,947	.....
Sept.	10,781,753	9,433,732	.....
Oct.	11,086,850	9,269,806	.....
Nov.	11,068,158	9,257,667	.....
Dec.	10,458,445	9,454,512	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1926—	Runs	Shipmts.	Stocks
March	2,754.62	1,732.77	13,841.1
April	3,137.40	4,519.68	12,459.0
May	2,933.29	2,096.35	13,295.9
June	3,217.62	1,655.15	14,858.4
July	3,025.86	4,075.11	13,809.1
August	2,886.59	2,121.21	14,574.4
Sept.	2,788.18	3,273.06	13,985.6
Oct.	2,991.86	2,307.75	14,671.9
Nov.	2,810.60	1,664.55	15,817.9
Dec.	2,847.52	5,561.11	13,103.7
1927—			
Jan.	2,641.54	1,470.42	14,274.8
Feb.	2,764.30	1,082.82	15,956.3
March	2,587.20	1,878.56	16,664.8

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, April 1	2,642,060.35
Runs from wells	698,541.05
Other receipts	255,909.01
Regular deliveries	462,602.53
Other deliveries	535,766.13

The amount of Illinois oil run by the Tidewater Pipe Co. in March was 29,052.34 bbls. and deliveries were 92,344.61 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1926—	
March	753,300.74
April	610,957.04
May	682,416.67
June	693,102.34
July	713,490.66
August	701,795.92
September	688,798.66
October	681,648.96
November	651,263.33
December	668,909.58
1927—	Runs
January	621,421.03
February	595,831.16
March	727,593.91

Tide Water Pipe Co., Ltd., also delivered in March 255,560.39 bbls.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Average bbls. per day—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
December	13,64b	7,129	29,645	7,419	2,774	77,613	.....	.....	.....	.....	.....	77,613
January	5,097	8,258	26,290	15,932	14,807	70,355	.....	.....	.....	806	806	71,161
February	26,214	3,036	32,750	8,571	18,250	88,821	.....	.....	.....	.....	.....	88,821
March	16,616	6,484	56,710	13,871	13,419	106,097	.....	.....	.....	484	.....	106,581

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
December	12,484	10,613	56,129	7,453	24,064	110,742	12,548	40,742	2,903	10,839	67,032	177,774
January	16,032	8,226	64,387	4,066	21,064	122,774	7,903	43,629	.....	4,123	55,645	178,419
February	12,000	14,429	87,286	5,321	26,714	145,750	4,786	46,786	2,143	3,607	57,322	203,073
March	4,677	13,161	63,484	9,226	26,129	116,677	6,742	36,258	2,419	4,871	50,290	166,967

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

1926—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
April:	Month	18,091,771	14,468,190	10,799,760	3,330,120	5,127,510	1,959,570	3,231,404	3,183,000	60,191,325
	Daily average	603,059	482,273	359,992	111,004	170,917	65,319	104,239	106,100	2,006,337
May:	Month	18,667,144	14,507,008	11,940,797	3,516,640	5,482,939	2,231,938	3,459,489	3,317,000	63,122,955
	Daily average	602,166	467,968	385,187	113,440	176,869	71,998	111,596	107,000	2,036,224
June:	Month	18,269,417	14,073,510	11,782,200	3,346,470	5,064,760	2,206,830	3,437,905	3,365,000	61,546,092
	Daily average	608,981	469,117	392,740	111,549	168,822	73,561	114,597	112,167	2,051,536
July:	Month	18,743,199	14,657,482	13,983,759	3,582,267	5,019,892	2,173,813	3,336,664	3,420,000	64,917,076
	Daily average	604,619	472,822	451,089	115,557	161,932	70,123	107,634	110,323	2,094,099
August:	Month	18,765,080	14,618,286	17,093,586	3,681,436	4,878,191	2,190,739	3,457,697	3,339,500	68,024,465
	Daily average	606,325	471,556	551,406	118,756	157,361	73,896	111,538	107,726	2,194,338
September:	Month	18,104,954	14,466,510	17,580,100	3,450,060	4,603,230	2,079,840	3,141,123	3,330,000	66,755,817
	Daily average	603,498	482,217	586,003	115,002	153,441	69,328	104,704	111,000	2,225,194
October:	Month	18,966,055	15,720,689	19,001,388	3,714,637	4,625,138	2,166,559	3,071,720	3,398,000	70,664,186
	Daily average	611,808	507,119	612,948	119,827	149,198	69,889	99,088	109,613	2,279,490
November:	Month	19,173,128	16,876,950	18,593,160	3,593,490	4,299,480	2,054,911	2,842,587	3,216,000	70,649,706
	Daily average	639,104	562,565	619,772	119,783	143,316	68,497	94,752	107,200	2,354,990
December:	Month	20,276,950	17,882,908	19,753,591	3,654,156	4,266,189	2,018,734	2,658,301	3,313,000	73,823,839
	Daily average	654,095	576,868	637,212	117,876	137,619	65,120	85,752	106,871	2,381,414
1927—										
January:	Month	20,184,872	19,030,745	18,546,990	3,668,323	4,076,469	1,905,570	2,610,303	3,332,500	73,355,773
	Daily average	651,125	613,895	598,290	118,333	131,499	61,471	84,203	107,500	2,366,314
February:	Month	17,982,711	19,752,348	16,483,292	3,349,416	3,574,256	1,784,104	2,385,135	3,007,200	68,318,463
	Daily average	642,240	705,441	588,689	119,622	127,652	63,718	85,183	107,400	2,439,945
March:	Month	19,835,724	22,480,921	18,417,100	3,672,849	3,853,920	1,896,425	2,466,798	3,620,800	76,244,537
	Daily average	639,862	725,191	594,100	118,479	124,320	61,175	79,574	116,800	2,459,501
	Total 12 months	227,061,008	198,535,497	193,975,723	42,559,864	54,871,974	24,660,933	36,099,126	39,842,000	817,614,235

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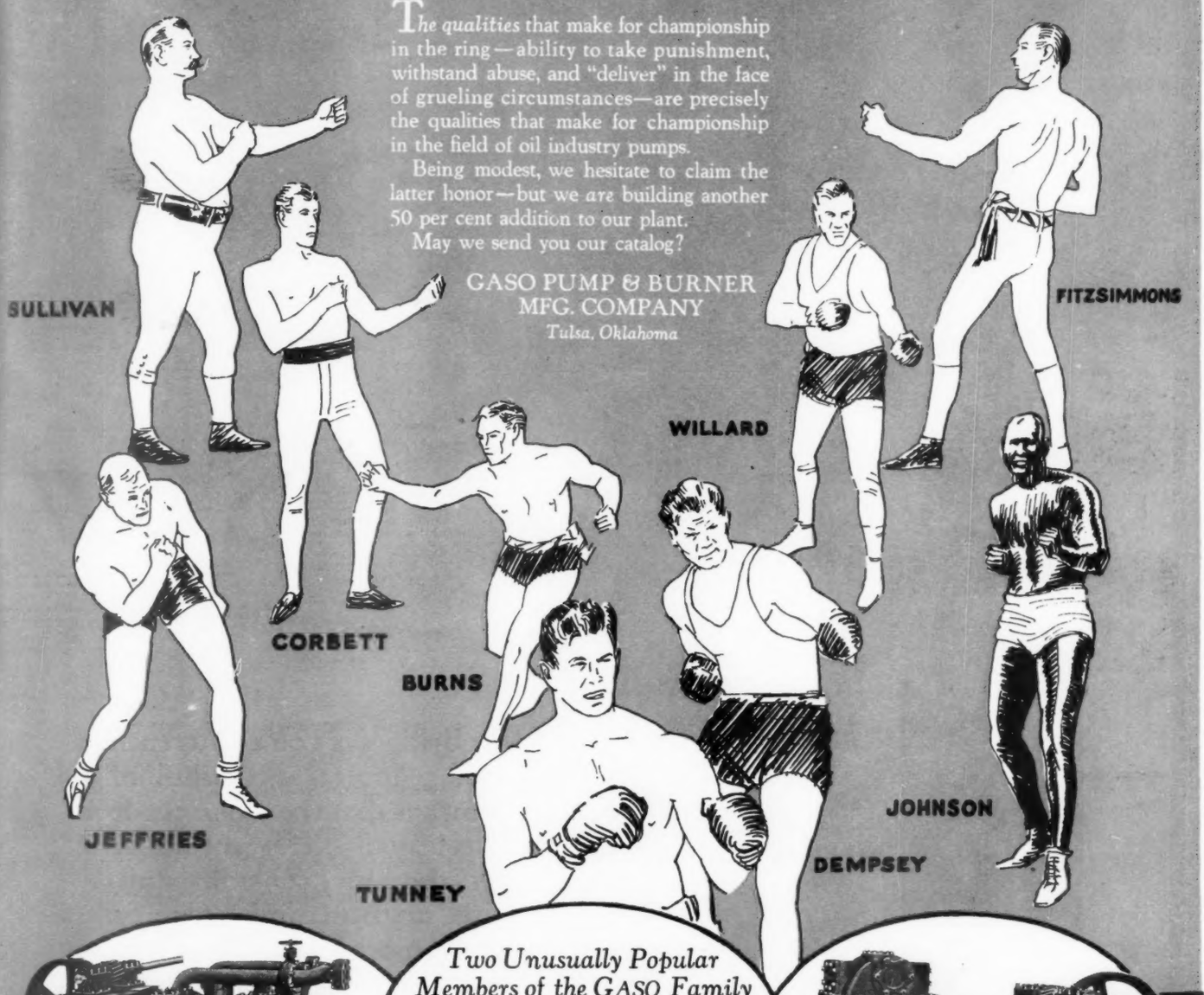

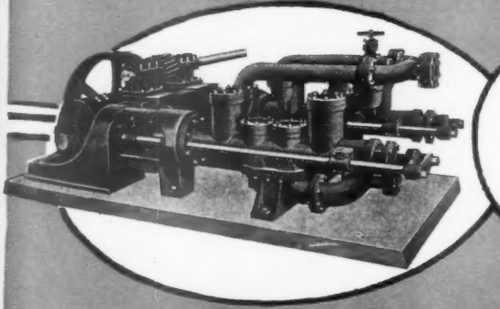

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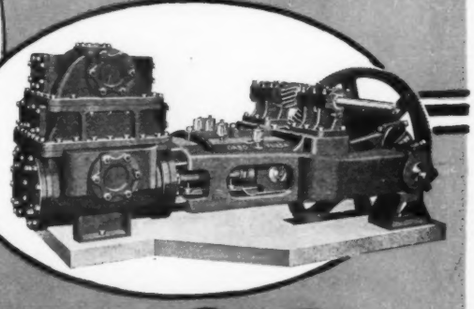

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